

BEFORE THE BOARD OF OIL, GAS & MINING  
DEPARTMENT OF NATURAL RESOURCES IN AND FOR THE STATE OF UTAH

IN THE MATTER OF THE	)	
PETITION OF CREDO PETROLEUM	)	
CORP. FOR AN EXCEPTION WELL	)	PETITION
LOCATION IN THE NORTHEAST	)	
QUARTER NORTHEAST QUARTER	)	Docket No. 87-026
OF SECTION 13, TOWNSHIP 17	)	
SOUTH, RANGE 24 EAST, S.L.M.,	)	Cause No. <u>13-7</u>
GRAND COUNTY, UTAH	)	
<hr/>		

Petitioner, Credo Petroleum Corp., by and through A. John Davis, of Pruitt, Gushee & Fletcher, its attorneys, hereby petitions the Board of Oil, Gas & Mining for affirmative relief from the Board's Order in Cause No. 13-6 dated September 26, 1986.

Said Order, in Part D. NEW DRILLING/SPACING UNITS, established 160 acre drilling/spacing units in said Section 13 composed of and equivalent to a regularly surveyed quarter section on lots corresponding thereto. The Order authorized one well upon each of the units located anywhere in the unit not less than 500 feet from the unit boundaries (with a 200 foot tolerance to be administratively granted pursuant to Rule 302.1 for geologic, topographic, cultural or other reasons) and not less than 2,000 feet from other wells producing from the same

formations (with a 200 foot tolerance to be administratively approved pursuant to Rule 302.1 for geologic, topographic, cultural or other reasons).

Petitioner is the operator of a proposed gas well to be drilled in the NE $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 13, Township 17 South, Range 24 East, S.L.M., Grand County, Utah. Petitioner proposes to locate the well 1,245 feet FNL and 870 feet FEL which will place the well 1,270 feet from the nearest producing well, the Lone Mountain 18-4 located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$  of Section 18, Township 17 South, Range 25 East, S.L.M., Grand County, Utah. In support of its Petition, Petitioner states to the Board as follows:

1. Petitioner is a Colorado corporation duly authorized to transact business in the State of Utah.

2. Petitioner submits that its request for an exception location for the Credo-Samedan #1 Federal Well is necessary due to the extreme topographic conditions in the NE $\frac{1}{4}$  of Section 13. Specifically, the land rises sharply to the west and southwest from the east boundary line of Section 13. The extremely abrupt topography is bisected by a narrow draw draining from the west to the east through the NE $\frac{1}{4}$ NE $\frac{1}{4}$  to the east boundary

line of Section 13. This draw provides the only suitable location for a drillsite in the NE $\frac{1}{4}$ . See attached plat and topographic map, Attachment "A".

3. Petitioner also believes, and therefore alleges, that the Lone Mountain 18-4 Well, in the NW $\frac{1}{4}$ NW $\frac{1}{4}$  of Section 18, Township 17 South, Range 25 East, which is located only 350 feet from the common line between said Section 18 and Section 13, is draining a pool of gas common to the two units.

4. Petitioners believe and, therefore allege that the requested relief will prevent the waste of natural resources, maximize the ultimate recovery of oil and/or gas and prevent the drilling of unnecessary wells, and is necessary to protect Petitioner's correlative rights.

5. Petitioner represents that Attachment "B" to this Petition is a full and complete list of all owners of drilling units directly or diagonally offsetting the subject unit.

THEREFORE, Petitioner requests that this matter be set for hearing, that due notice be given as required by law, and upon hearing that this Board enter an order granting Petitioner an exception to the Order in Cause No. 13-6 allowing Petitioner to locate its well 1245 feet FNL and 870 feet FEL in the NE $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 13, Township 17 South, Range 24 East, S.L.M., Grand County, Utah.

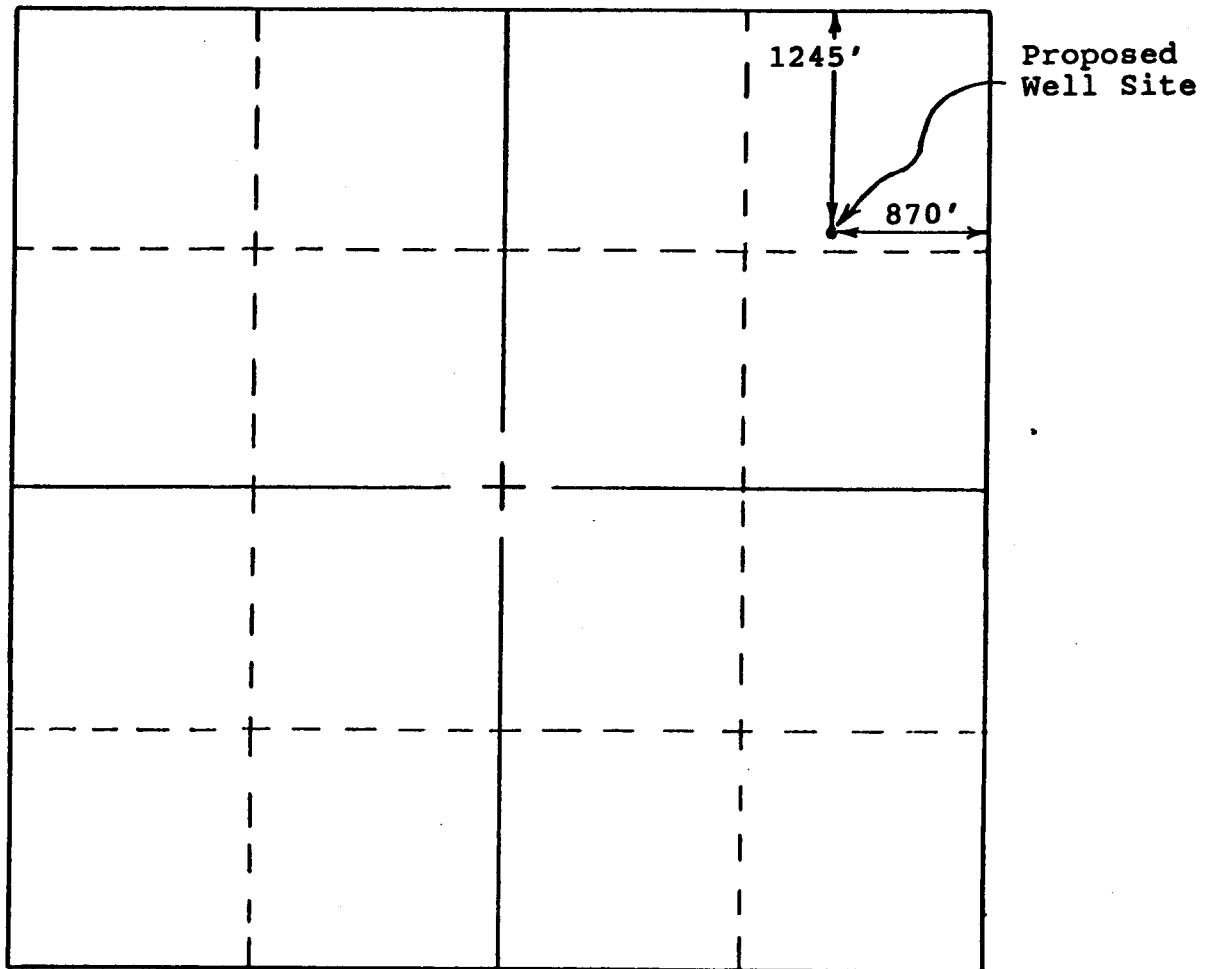
DATED this 4<sup>TH</sup> day of September, 1987.

CREDO PETROLEUM CORPORATION

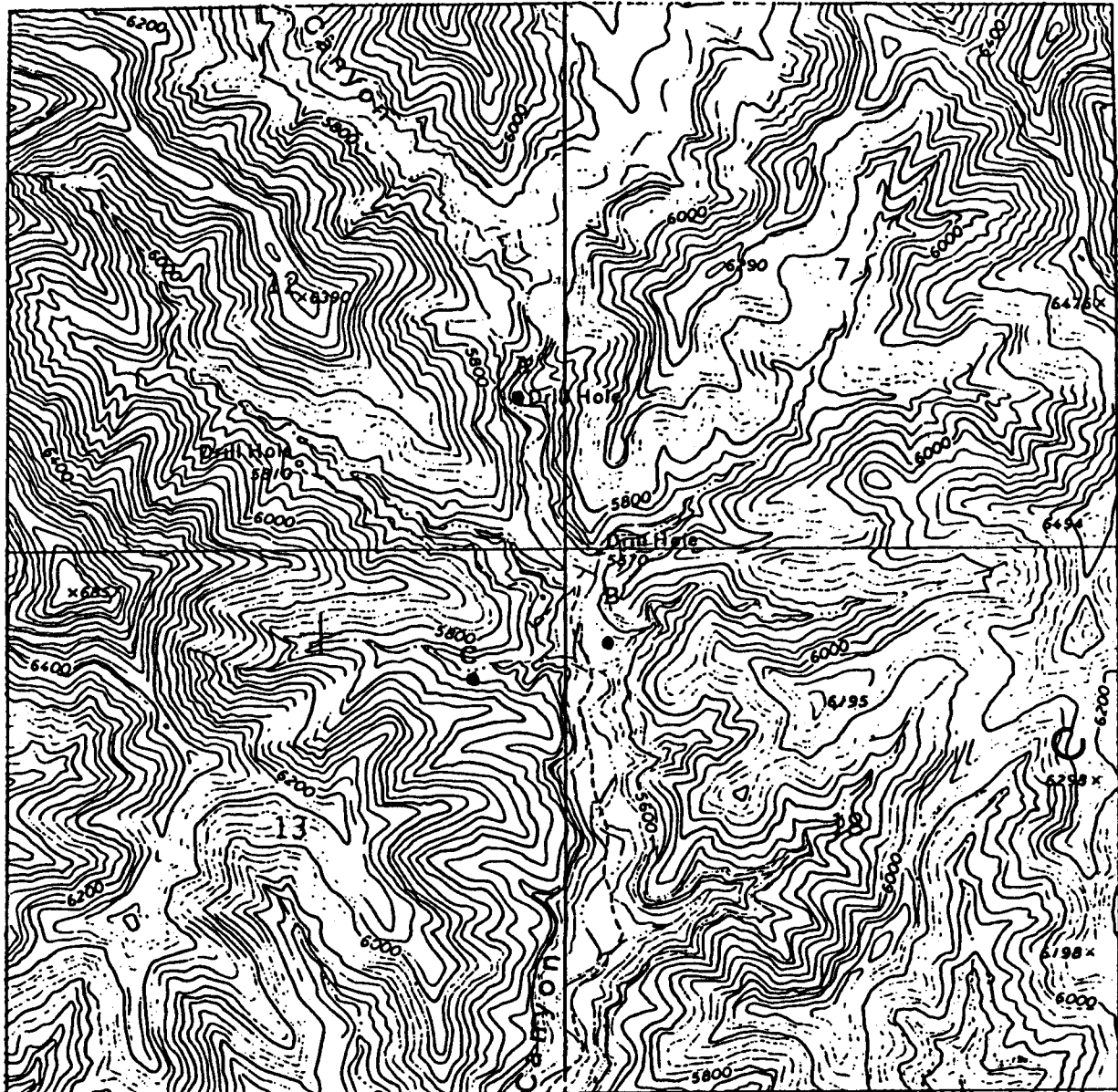
By: 

A. John Davis, III  
1850 Beneficial Life Tower  
Salt Lake City, Utah 84111  
(801) 531-8446

ATTACHMENT A



SECTION 13  
Township 17 South, Range 24 East, SLM  
Grand County, Utah



SECTIONS 7, 18  
 Township 17 South, Range 25 East, SLM  
 and  
 SECTIONS 12, 13  
 Township 17 South, Range 24 East, SLM  
 all in  
 Grand County, Utah

- A - USA 12-9
- B - Lone Mountain 18-4 Well
- C - Proposed Well Site for Credo-Samedan #1 Federal Well

ATTACHMENT "B"

LIST OF PERSONS OWNING AN INTEREST IN ADJOINING LANDS

A. Section 12: E $\frac{1}{2}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ : T17S, R24E, S.L.M.: U-041374

1. Carson Water Co.  
5241 Spring Mountain Road  
Las Vegas, Nevada 89102
2. EM Nominee Partnership  
4582 S. Ulster Parkway, #1700  
Denver, Colorado 80237
3. Quinoco Oil & Gas 1983-2  
4582 S. Ulster Parkway, #1700  
Denver, Colorado 80237
4. Quinoco Oil & Gas 1983-3  
4582 S. Ulster Parkway, #1700  
Denver, Colorado 80237
5. Quinoco Oil & Gas 1983-4  
4582 S. Ulster Parkway, #1700  
Denver, Colorado 80237

B. Section 12: W $\frac{1}{2}$ SW $\frac{1}{4}$ , T17S, R24E, S.L.M.: U-38030

1. Carson Water Co.  
5241 Spring Mountain Road  
Las Vegas, Nevada 89102
2. EM Nominee Partnership  
4582 S. Ulster Parkway, #1700  
Denver, Colorado 80237
3. Quinoco Oil & Gas 1983-2  
4582 S. Ulster Parkway, #1700  
Denver, Colorado 80237
4. Quinoco Oil & Gas 1983-3  
4582 S. Ulster Parkway, #1700  
Denver, Colorado 80237

5. Quinoco Oil & Gas 1983-4  
4582 S. Ulster Parkway, #1700  
Denver, Colorado 80237

C. Section 7: All, Section 18: NE $\frac{1}{4}$ , E $\frac{1}{2}$ NW $\frac{1}{4}$ , Lots 1, 2, T17S, R25E, S.L.M.: U-038033

1. Carson Water Co.  
5241 Spring Mountain Road  
Las Vegas, Nevada 89102
2. Em Nominee Partnership  
P. O. Box 10800  
Denver, Colorado 80210
3. Lone Mountain Production Co.  
408 Petroleum Building  
Billings, Montana 59103
4. Quinoco Oil & Gas 1983-3  
4582 S. Ulster Parkway, #1700  
Denver, Colorado 80237
5. Quinoco Oil & Gas 1983-4  
4582 S. Ulster Parkway, #1700  
Denver, Colorado 80237

D. Section 13: S $\frac{1}{2}$ S $\frac{1}{2}$ , NW $\frac{1}{4}$ NW $\frac{1}{4}$ , T17S, R24E, S.L.M.: U-044025

1. New England Energy  
1616 Glenarm Pl., 2550  
Denver, Colorado 80202
2. Samedan Oil Co.  
1616 Glenarm Pl., 2550  
Denver, Colorado 80202



BEFORE THE BOARD OF OIL, GAS & MINING

DEPARTMENT OF NATURAL RESOURCES IN AND FOR THE STATE OF UTAH

IN THE MATTER OF THE	)	MOTION AND ORDER
PETITION OF CREDO PETROLEUM	)	FOR DEVIATION FROM
CORP. FOR AN EXCEPTION WELL	)	PROCEDURAL RULES
LOCATION IN THE NORTHEAST	)	
QUARTER NORTHEAST QUARTER	)	Docket No. 87-026
OF SECTION 13, TOWNSHIP 17	)	
SOUTH, RANGE 24 EAST, S.L.M.,	)	Cause No. _____
GRAND COUNTY, UTAH	)	
_____	)	

Petitioner, Credo Petroleum Corp., by and through A. John Davis of Pruitt, Gushee & Fletcher, its attorneys, pursuant to Rule 1(d) of the Procedural Rules of the Board, hereby moves this Board for an Order permitting deviation from Rules 6(a) and (b) of the Procedural Rules to allow a hearing on Petitioner's Petition at the regularly scheduled meeting for September, 1987 and to allow responses to the Petition by affected persons on or before September 17, 1987 or such later date as allowed by the Board.

In support of this Motion, Petitioner states as follows:

1. On September 1, 1987, Petitioner was issued a competitive Federal Oil and Gas Lease covering the subject lands.
2. The subject lease contains a stipulation allowing exploration, drilling and other development activities only during the period from April 30 to November 1 in any given year.

Therefore, for access and operational reasons, Petitioner must locate its drillsite and commence drilling operations on this lease as soon as possible.

Petitioner has contacted by telephone all owners of units directly or diagonally offsetting the subject unit and all have agreed to waive formal service of process and accept delivery of the Petition by overnight mail.


Petitioner is requesting deviation from Rule 6(b) in fairness to adjacent owners whom may have objections to the Petition.

THEREFORE, Petitioner requests that the Board grant this Motion and allow its Petition and any responses thereto to be heard at the September 24, 1987 meeting of the Board.

Respectfully submitted this 8<sup>TH</sup> day of September, 1987.

CREDO PETROLEUM CORPORATION

By:

  
A. John Davis, III  
Pruitt, Gushee & Fletcher  
1850 Beneficial Life Tower  
Salt Lake City, Utah 84111  
(801) 531-8446

**LONE MOUNTAIN PRODUCTION COMPANY**

P.O. BOX 3394  
408 PETROLEUM BUILDING  
BILLINGS, MONTANA 59103-3394  
(406) 245-5077

CC: BOARD  
DR Nielson  
RJ Firth  
JR Baza  
BW Roberts  
AS Bachman

**CERTIFIED MAIL:**  
Return Receipt Requested

September 11, 1987

RECEIVED 11/11/87

**SEP 14 1987**

Utah Board of Oil, Gas & Mining  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Attn: Marjie Anderson, Secretary

Gentlemen:

Lone Mountain Production Company intends to object to the Credo Petroleum Corp. Petition for an exception well location in the NE/4 NE/4 of Section 13, Township 17 South, Range 24 East, S.L.M., Grand County, Utah, as petitioned for in Docket No. 87-026.

Lone Mountain further objects to the Motion and Order for Deviation from Procedural Rules, which would allow the Petition to be heard at the September 24, 1987 meeting of the Board. Lone Mountain requests that the Petition be continued to the regularly scheduled October 22, 1987 meeting of the Board to allow us sufficient time to prepare our exhibits and objections.

Very truly yours,

LONE MOUNTAIN PRODUCTION COMPANY

  
James G. Routson

JGR:bp

cc: A. John Davis  
Pruitt, Gushee & Fletcher  
Suite 1850 Beneficial Life Tower  
Salt Lake City, UT 84111

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE\*  
(Other instructions on  
reverse side)

Form approved,  
Budget Bureau No. 1004-0136  
Expires August 31, 1985

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☐

GAS  
WELL ☒

OTHER

SINGLE  
ZONE ☒

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

Credo Petroleum Corp.

3. ADDRESS OF OPERATOR

1860 Lincoln St., Suite 1000  
Denver, CO 80295

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

793' FNL, 1445FEL, Sec. 13

At proposed prod. zone

Approximately same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

29.5 miles northwesterly of Mack, Colorado

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drg. unit line, if any)

1040

18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

None

16. NO. OF ACRES IN LEASE

160.0

19. PROPOSED DEPTH

4500

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

160

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

GR. 5784'

22. APPROX. DATE WORK WILL START\*

ASAP

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	9 5/8"	36#-J	400'	175 SX Class G to surface
7 7/8"	4 1/2"	10.5 #J-55LTC	TD	175 SX RFC
*	*	*	*	*

EXHIBITS ATTACHED.

Plat #1 Location & Elevation Plat  
'A' Ten Point Compliance Program  
'B' Blowout Preventer Diagram  
'C' Multi-point Requirements for APD  
Map #1 Access Road & Radius Map of wells in area  
Map #2 Vicinity Map  
Plat #2 Drill Pad layout with contours  
Plat #3 Cross-sections of Drill Pad  
Plat #4 Drill Rig layout

\* Alternate casing program: 8 3/4" hole drilled from 400' to 1200', if water flow is encountered in Castlegate, 7" (20#) casing will be set to approximately 1200' with 150 SX; Drill out from 1200' with 7 7/8" hole to TD.

RECEIVED  
OCT 2 1987  
OFFICE

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. BRUCE FALKNER

SIGNED

TITLE

DATE

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

DATE

BY: John R. Bays

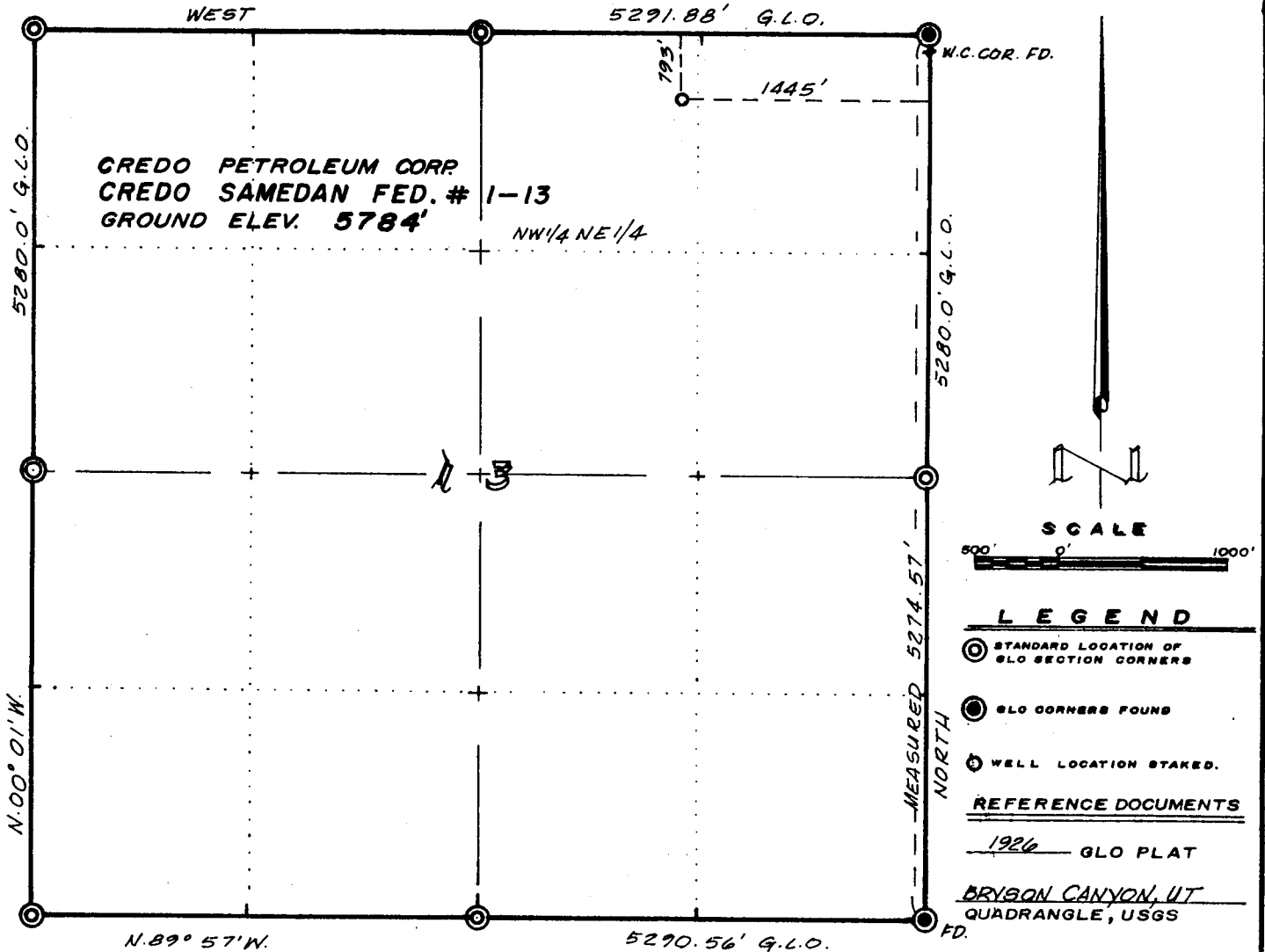
WELL SPACING: 13-6

\*See Instructions On Reverse Side

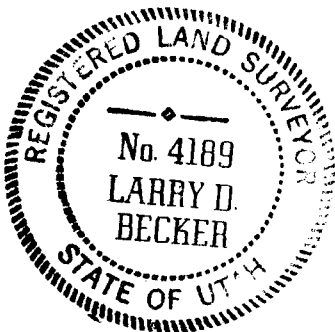
Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within the jurisdiction of that department or agency.

SEC. 13, T. 17 S., R. 24 E. OF THE S.L.M.

LOCATION PLAT



THIS WELL LOCATION PLAT WAS PREPARED FOR CREDO PETROLEUM  
TO LOCATE THE CREDO SAMEDAN FED. # 1-13, 793' F.N.L. &  
1445' F.E.L. IN THE NW 1/4 NE 1/4, OF SECTION 13, T. 17 S., R. 24 E.  
OF THE S.L.M. GRAND COUNTY, UTAH



SURVEYOR'S CERTIFICATE

I, LARRY D. BECKER A REGISTERED LAND SURVEYOR IN THE STATE OF UTAH DO HEREBY CERTIFY THAT THIS SURVEY WAS MADE UNDER MY DIRECT SUPERVISION AND THAT THIS PLAT REPRESENTS SAID SURVEY.

*Larry D. Becker*

SURVEYED	2/4/87	ENERGY SURVEYS & ENGINEERING CORP.	715 HORIZON DRIVE, SUITE 330 GRAND JUNCTION, CO 81501 (303) 245-7221	SCALE 1" = 1000'
DRAWN	9/17/87			JOB NO.
CHECKED	2/18/87			SHEET OF

EXHIBIT "A"  
TEN - POINT COMPLIANCE PROGRAM OF NTL-6  
APPROVAL OF OPERATIONS

1. Geologic Surface Formation

The surface formation is Mancos.

2. Important Geologic Markers

<u>Formation</u>	<u>Depth</u>
Dakota Silt	4050
Dakota Morrison	4285
Salt Wash	4350

3. Estimated Depths of Anticipated Water, Oil, Gas or Minerals

<u>Formation</u>	<u>Depth</u>	<u>Fluid or Minerals</u>
Dakota Silt	4050	Gas
Dakota Morrison	4285	Gas
Salt Wash	4350	Gas

4. Proposed Casing Program

SURFACE CASING: Drill 12 1/4" hole to 400' and set 9 5/8" (36#) cemented to surface.

ALTERNATE CASING: Drill 8 3/4" hole to approximately 1200'; if water flow in Castlegate is encountered, set 7" (20#), cement with 150 SX.

LONG STRING: Drill 7 7/8" hole from approximately 1200' to TD, set 4 1/2" (J-55 10.5#) cement with 175 SX.

5. Operator's Minimum Specifications for Pressure Control

Exhibit 'B' is a schematic diagram of the blowout preventer equipment planned for use in this well. The BOP's will be hydraulically tested to 1000 psi after nipping up and after any use under pressure. Pipe rams will be operationally checked each trip. All tests will be recorded in the daily drilling report. Accessories to BOP's include Kelly Cock, safety valve, drill string BOP and choke with pressure rating equivalent to the BOP stack.

6. Type and Characteristics of Proposed Muds

Air or mist drilling will be used to drill the surface hole unless water is encountered. If water is encountered, chemical-gel type mud will be used. This well will be air drilled from under surface casing to total depth.

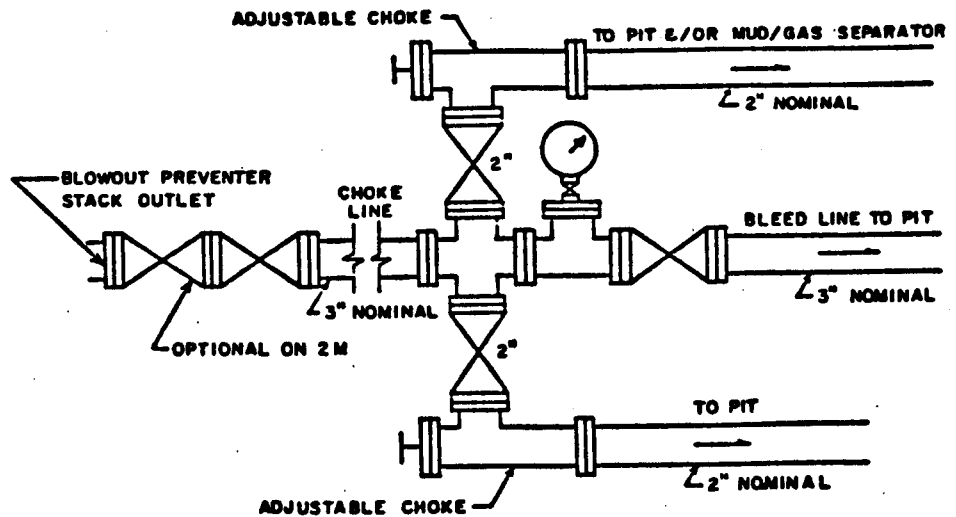
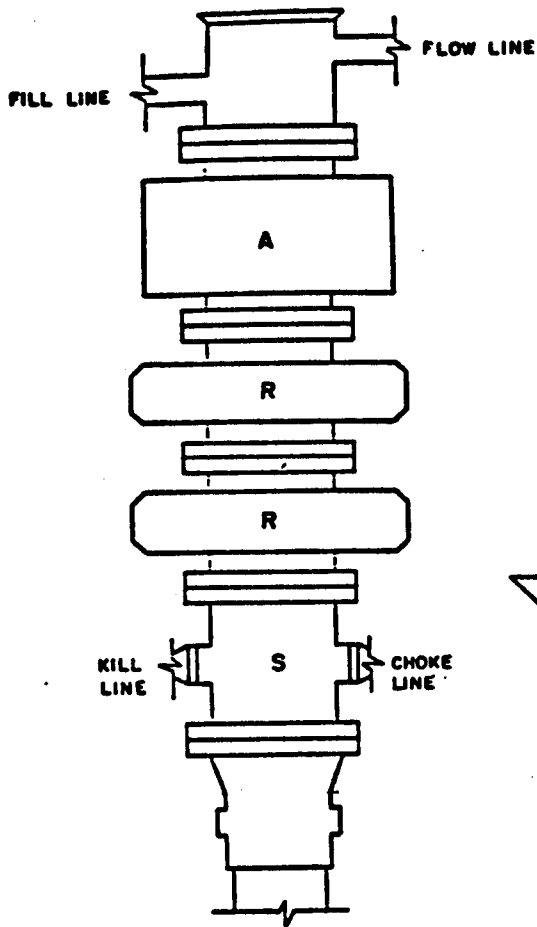
7. Auxiliary Equipment to be Used

- (a) Kelly Cock will be kept in the string.
- (b) A full opening stabbing valve will be on the floor for use, when the Kelly is not in the string.
- (c) A float will be run at the bit.
- (d) Monitoring equipment will be installed and used on the mud system.

EXHIBIT "A"  
Page 2

8.
  - (a) Drill stem tests are not planned at this time.
  - (b) The logging program will consist of a Dual-Induction-Laterolog, Formation Density Log, and a Compensated Neutron Porosity Log will be run.
  - (c) No coring is planned.
  - (d) Drilling samples will be caught at 30' intervals BSC to 3000'; from 3000 to TD samples at 10' intervals.
9. Any Anticipated Abnormal Pressures or Temperatures Expected  
No abnormal gas pressures or temperatures are expected.  
No hydrogen sulfide or other hazardous gasses or fluids have been encountered in the area and none are anticipated.
10. Anticipated Starting Date and Duration of Operations  
The anticipated starting date is October 12, 1987.  
Drilling operations should be completed 5 to 10 days after spudding.

# EXHIBIT 'B' BOP SCHEMATIC



## DOUBLE RAM TYPE PREVENTERS

Minimum BOP Stack	<u>3,000</u> psi Working Pressure
One Pipe Ram	<u>3,000</u> psi Working Pressure
One Blind Ram	<u>3,000</u> psi Working Pressure (OPTIONAL)
One Annular	<u>3,000</u> psi Working Pressure (OPTIONAL)
Well Head	<u>2,000</u> psi Working Pressure
Manifold	<u>3,000</u> psi Working Pressure



EXHIBIT "C"  
MULTI-POINT REQUIREMENTS TO ACCOMPANY APD

1. Existing Roads

- A. Plat #1 is the proposed well site as staked by Energy Surveys & Engineering Corp.; staking included two 200' reference points with elevations and elevation of location.
- B. Map #1 is the Access Road and the Topo Map. From Mack Post Office, go westerly on Hwy 6 & 50 15.3 miles. Turn right on graveled road. Go northwesterly 5.6 miles. Turn right at intersection and go northerly 2.7 miles. Turn right at intersection and go north-easterly, then northerly 5.5 miles to beginning of access road. Go southwesterly 0.5 miles to location.
- C. Map #1 is a copy of a portion of the Bryson Canyon Quadrangle. It shows the access roads into the location. The green color shows the existing roads; the red color indicates flagged route for new construction required to reach the location.
- D. All known existing roads appear on Maps #1 and #2.
- E. All roads to the beginning of the access to be constructed are in good condition and are carrying truck traffic regularly. Occasional maintenance blading will keep roads in good condition.

2. Planned Access Roads

The proposed access to be constructed is 0.5 miles in length and will be 16' in width. See Map #1.

- (1) The typical section if the proposed access road will be 16' in width.
- (2) Maximum grade will be 12% or less.
- (3) No turnouts will be required.
- (4) One 24" culvert will be required.
- (5) Drainage will be carried in bar ditches to natural drainage courses.
- (6) Road surface material will be that native to the area.
- (7) No gates will be required. This is an open range area.
- (8) The proposed access road was flagged at the time the location was staked.

The operator or his contractor will notify B.L.M. office in Moab, Utah (phone 801/259-8193) at least 48 hours prior to commencement of any work on this location or roadway.

3. Location of Existing Wells

For all existing wells within a one-mile radius of this development well, see Map #1.

- (1) There are no water wells.
- (2) There is one abandoned well.
- (3) There are no temporarily abandoned wells.
- (4) There are no disposal wells.
- (5) There are no drilling wells.
- (6) There are producing wells: (as shown on Map #1).
- (7) There are no shut-in wells.
- (8) There are no injection wells.
- (9) There are no monitoring wells or observation wells.

4. Location of Existing and/or Proposed Facilities

A. Within a one-mile radius of this location are the following existing facilities owned or controlled by lessee/operator.

- (1) Tank batteries - none.
- (2) Production facilities - none.
- (3) Oil gathering lines - none.
- (4) Gas gathering lines - none.
- (5) Injection lines - none.
- (6) Disposal lines - none.

B. Separators, heater/treaters and meter houses, if required, will be placed on gravel pads or concrete bases, and will be painted according to color and specification under conditions of approval from the authorized officer.

C. Rehabilitation, whether the well is productive or not, will be made on the unused areas as soon as practical in accordance with the restoration plans presented in Item 10 following.

5. Location and Type of Water Supply

The water source for this well be West Salt Creek. The pumping point is on old Highway 6 & 50 approximately 2.5 miles west of Mack, Colorado. The water will be hauled by commercial hauler over existing access road and proposed access road to the location.

6. Source of Construction Materials

A., B., C., D.

No construction materials are needed for drilling operations.

In the event of production, the small amount of gravel needed for facilities will be hauled in by truck from a local gravel pit over existing access roads from the area. No special access other than for drilling operation is needed.

7. Methods for Handling Waste Disposal

- (1) Drill cuttings will be buried in the reserve pit when covered.
- (2) Drilling fluids will be contained in steel mud pits and the reserve pit.
- (3) Any hydrocarbon liquids produced while drill stem testing or production testing will be contained in a test tank set near the pipe baskets or near the well-head. Any unavoidable spills of oil or other adverse substances or materials will be covered or removed immediately during drilling progress or during completion operations.
- (4) Portable chemical toilets will be provided and serviced by a local commercial sanitary service.
- (5) Garbage and trash will be collected in a trash cage and its contents hauled to a sanitary landfill.
- (6) Previous to commencement of drilling, the reserve pit will be fenced on three sides using 36" woven wire with one strand of barbed-wire above. When drilling activities are completed it will be fenced on the fourth side and allowed to dry (if liquids are present). Otherwise, reclamation procedures will commence to rehabilitate and reseed the disturbed areas outside of the area needed for production. See Item 10 for other rehabilitation requirements.

8. Ancillary Facilities

No air strips, camps, or other living facilities will be built off the location. Housing and office trailers will be on the location as seen on Plat #4.

9. Well Site Layout

- (1) Plat #2 is the Drill Pad Layout as staked by Energy Surveys & Engineering Corp. Cut and fill contours have been drawn on this plat. Surplus material, trees and brush to be stockpiled have been shown.
- (2) Plat #3 shows the cut/fill cross-sections as taken from Plat #2.

- (3) The mud tanks, reserve pit, trash cage, chemical toilet, pipe racks, living facilities, rig orientation, parking areas and access road are all shown on Plat #4.
- (4) The reserve pit will be in natural cut material.

10. Plans for Restoration

- (1) Backfilling, leveling, and recontouring will be accomplished as soon as possible after plugging of the well, or on those unused areas if production is obtained. Rehabilitation work will commence as soon as practical. Waste disposal and spoils materials will be buried or hauled away.
- (2) All disturbed areas will be scarified with the contour to a depth of 2 inches. A seed mixture stipulated by the Grand Resource Area will be broadcast over the rehabilitated areas. A harrow-type implement will be drug over the seed bed to insure seed cover.
- (3) Three sides of the reserve pit will be fenced prior to drilling. Upon completion the fourth side will be fenced until rehabilitation necessitates removal.
- (4) Any oil spills will be immediately reported, and cleaned up or flagged.
- (5) Rehabilitation operations will commence as soon as practical. All recontouring rehabilitation, reseeding will continue until completed unless so directed by the B.L.M.
- (6) The Resource Area in Moab, Utah will be called at least 48 hours before work begins on the rehabilitation program.

11. Other Information

- (1) Topographic and Geologic Features of the area (reference Topographic Map #1):  
The location lies on the easterly slope of a ridge which drains into San Arroya Canyon which is a tributary to the Colorado River. The area has juniper and pinyon trees, gambel scrub oak, Mt. Mahogany, service berry, cheat grass, crested wheat, sagebrush, rabbitbrush, mormon tea, cactus; cattle, deer, elk, antelope, rodents, rabbits, raptor, bluejays, ground sparrow, chukar, coyotes, and bobcats.

- (2) The surface ownership is Federal. The surface use is grazing and petroleum production.
- (3) a. The nearest live water is in East Canyon, 3 miles westerly as shown on Map #2.
- b. No dwellings of any kind exist in the area and no archaeological, historical or cultural sites are known to be present.
- c. An archaeological report by Grand River Consultants will be sent under separate cover.
- d. There are no reported restrictions or reservations noted on the oil and gas lease.

12. Lessee's or Operator's Representative

Credo Petroleum Corp.  
Bruce C. Faulkner  
1860 Lincoln Street, Suite 1000  
Denver, CO 80295  
(303) 830-8500

13. Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operation s proposed herein will be performed by the operator and its contractors and subcontractors in conformity with the plan and the terms and conditions under which it is approved.

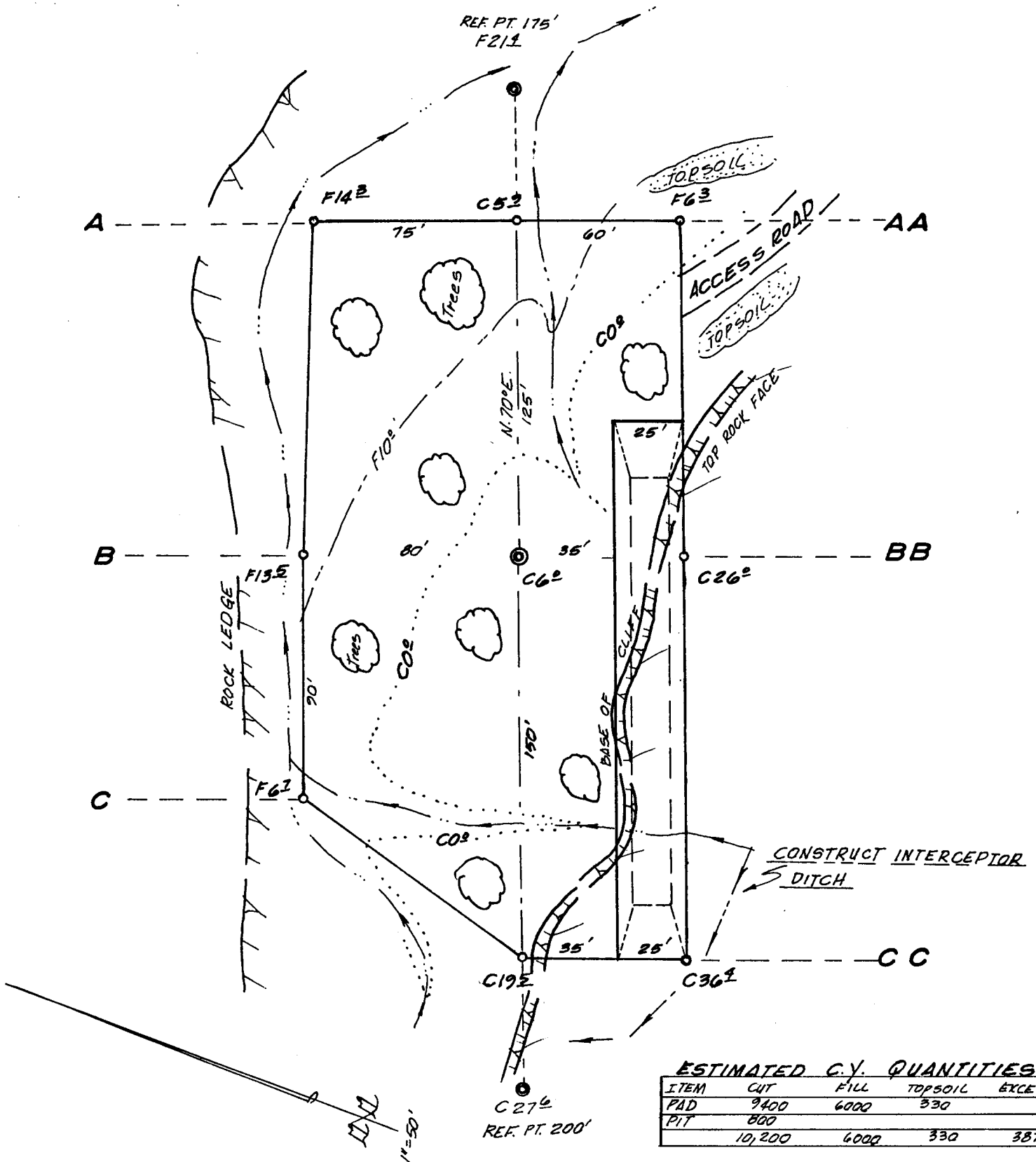
This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Date

7/30/87

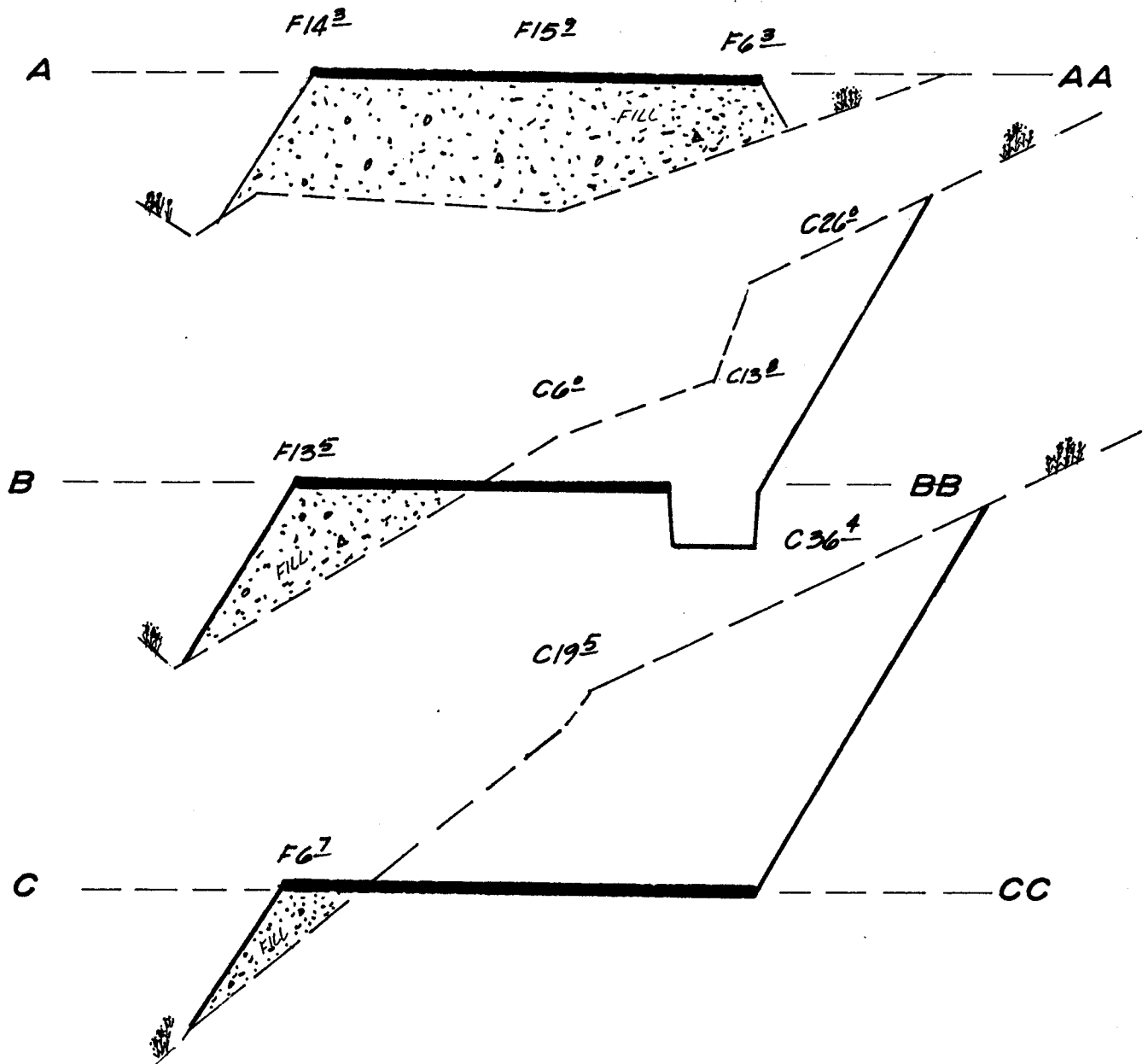
  
Bruce C. Faulkner  
Credo Petroleum Corporation

PLAT # 2  
PIT & PAD LAYOUT



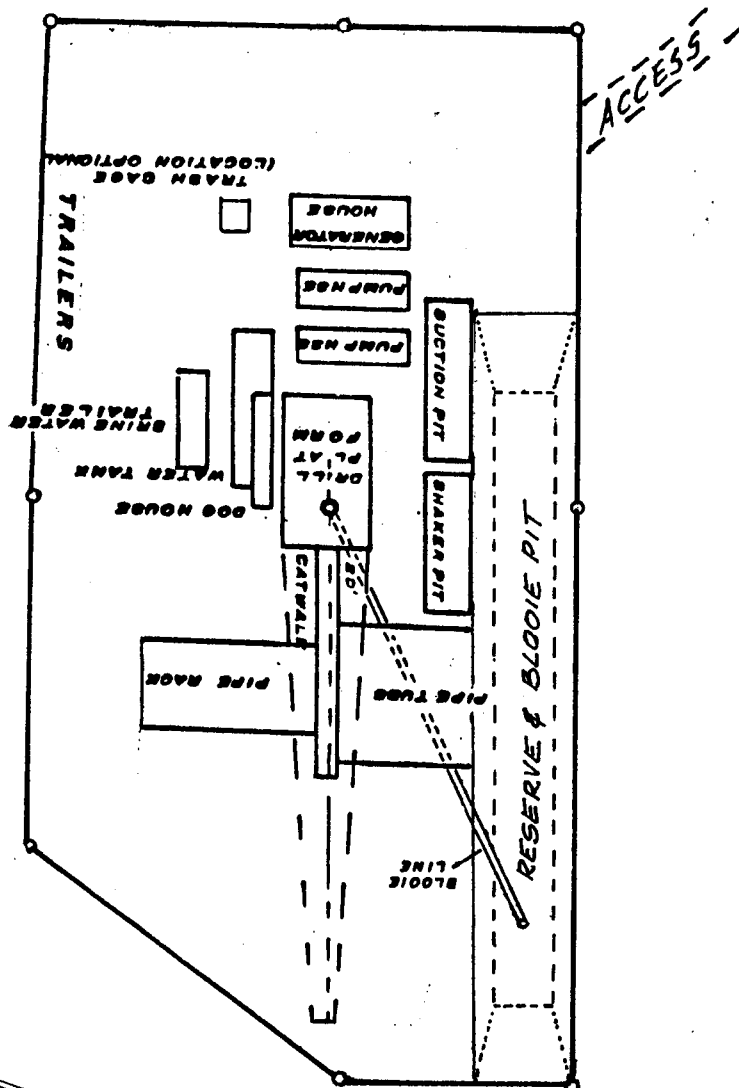
CREDO SAMEDAN FED. # 1-13

PLUT # 3  
CROSS-SECTIONS



CREDO SAMEDAN FED. # 1-13

# RIG LAYOUT PLAT NO. 4



CREDO SAMEDAN FED. # 1-13



MAP NO. 1  
TOPO & ACCESS MAP

San Arroyo Canyon

Bison Canyon

Drill Hole

Drill Hole

Drill Hole

GREDO SAMEBAN FED. #1-13

1 MILE RADIUS

San Arroyo Canyon

GREDO PETROLEUM

[illegible]

MAP NO. 1  
TOPO & ACCESS MAP

San Arroyo Canyon

Bisoun Canyon

Drill Hole

Drill Hole

Drill Hole

GREDO SAMEBAN FED. #1-13

1 MILE RADIUS

San Arroyo Canyon

GREDO PETROLEUM

[illegible]

MAP NO. 1  
TOPO & ACCESS MAP

San Arroyo Canyon

Bison Canyon

Drill Hole

Drill Hole

Drill Hole

GREDO SAMEBAN FED. #1-13

1 MILE RADIUS

San Arroyo Canyon

GREDO PETROLEUM

MAP NO. 1  
TOPO & ACCESS MAP

San Arroyo Canyon

Bisoun Canyon

Drill Hole

Drill Hole

Drill Hole

GREDO SAMEBAN FED. #1-13

1 MILE RADIUS

San Arroyo Canyon

GREDO PETROLEUM



MAP NO. 2  
VICINITY MAP

R 26 E

## PARALLEL

2,650,000

**SOUTH**

CREDO SAMEDAN FED #1-13

CREDO PETROLEUM

TO GRAND  
330

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

BOND OF OIL AND GAS LESSEE

Act of February 25, 1920 (41 Stat. 437), as amended;  
Act of August 7, 1947 (61 Stat. 913), as amended  
Department of the Interior Appropriations Act, Fiscal Year 1981 (P.L. 96-514)

Bond Number

052-231J4091

Serial Number

U-62253

KNOW ALL MEN BY THESE PRESENTS, That we, CREDO PETROLEUM CORPORATION

and THE TRAVELERS INDEMNITY COMPANY

held and firmly bound unto the United States of America in the sum of Ten Thousand and No/100----- dollars (\$ 10,000.00 ) lawful money of the United States, for the use and benefit of (1) the United States; and (2) any entryman, patentee, or surface owner of any portion of the lands covered by the lease bearing the above serial number who is entitled by law to compensation in connection with a reservation of the oil and gas deposits to the United States, for which payment, well and truly to be made, we, by these present bind ourselves, and each of us, and each of our heirs, executors, administrators, successors, and assigns, jointly and severally, upon the following conditions, viz:

The conditions of this obligation are such that, whereas the said principal has been granted the lease above referred to, upon the lands described therein and upon conditions therein expressed; and

WHEREAS, the surety waives any right to notice of, and agrees that this bond shall remain in full force and effect, notwithstanding:

1. Any assignment or assignments of an undivided interest in any part or all of the lands in the lease, in which event the assignee or assignees shall be considered to be coprincipal or coprincipals on this bond as fully and to the same extent as though his or their duly authenticated signatures appeared thereon.

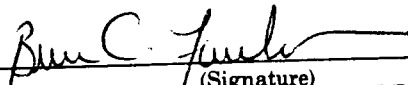
2. Any assignment of some of the lands described in the lease, the bond to remain in full force and effect only as to the lands retained in the lease.

3. Any extension of the lease term, any modification of the lease, or obligations thereunder, whether made or effected by commitment of the lease to any unit, cooperative, communitization or storage agreement, or development contract, suspension of operations or production, waiver, suspension or change in rental, minimum royalty and royalties, compensatory royalty payments, or otherwise.

NOW, THEREFORE, if the said principal, his heirs, executors, administrators, successors, or assigns shall fully comply with all of the terms and conditions of said lease or any extension thereof authorized by law, use all reasonable precautions to prevent damage to the land, leave the premises in a safe condition upon the termination of said lease, and compensate the entryman, patentee, or surface owner, if any, for damages to the land as required by law, then this obligation shall be null and void; otherwise to remain in full force and effect.

Signed on this 1st day of October, 1987, in the presence of:

NAMES AND ADDRESSES OF WITNESSES

  
(Signature)  
CREDO PETROLEUM CORPORATION  
1860 LINCOLN STREET SUITE 1000  
DENVER COLORADO 80295

(Address)

(Signature)

(Address)

(Signature)

(Address)

(Signature)

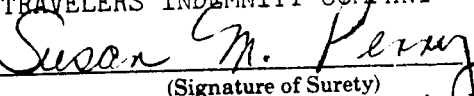
(Address)

CREDO PETROLEUM CORPORATION

By:  [L. S.]  
(Signature of Principal)

1860 Lincoln St., Ste. 1000, Denver, CO 80295  
(Business Address)

THE TRAVELERS INDEMNITY COMPANY

By:  [L. S.]  
(Signature of Surety)

Susan M. Perry, Atty.-in-fact  
P.O. Box 5980, Denver, CO 80217-5980

(Business Address)

By \_\_\_\_\_

(Address of Surety's Agent)



# The Travelers Indemnity Company

Hartford, Connecticut

If necessary, validation of this power of attorney is available at (203) 277-7839. Collect calls will be accepted.

## POWER OF ATTORNEY

### KNOW ALL MEN BY THESE PRESENTS:

That THE TRAVELERS INDEMNITY COMPANY, a corporation of the State of Connecticut, does hereby make, constitute and appoint

Rebecca K. Amann, Susan M. Perry, Larry Richardson, Stephen G. Sanker,  
Lori R. Short, Howard B. Conkey, all of Englewood, Colorado, EACH

its true and lawful Attorney(s)-in-Fact, with full power and authority, for and on behalf of the Company as surety, to execute and deliver and affix the seal of the Company thereto, if a seal is required, bonds, undertakings, recognizances, consents of surety or other written obligations in the nature thereof, as follows:

Any and all bonds, undertakings, recognizances, consents of surety  
or other written obligations in the nature thereof

and to bind THE TRAVELERS INDEMNITY COMPANY thereby, and all of the acts of said Attorney(s)-in-Fact, pursuant to these presents, are hereby ratified and confirmed.

This appointment is made under and by authority of the following Resolutions adopted by the Board of Directors of THE TRAVELERS INDEMNITY COMPANY at a meeting duly called and held on the 1st day of November, 1985 which Resolutions are now in full force and effect:

VOTED: That the Chairman of the Board, the President, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Corporate Secretary or any Department Secretary may appoint attorneys-in-fact or agents with power and authority, as defined or limited in their respective powers of attorney, for and on behalf of the Company to execute and deliver, and affix the seal of the Company thereto, bonds, undertakings, recognizances, consents of surety or other written obligations in the nature thereof and any of said officers may remove any such attorney-in-fact or agent and revoke the power and authority given to him.

VOTED: That any bond, undertaking, recognizance, consent of surety or written obligation in the nature thereof shall be valid and binding upon the Company when signed by the Chairman of the Board, the President, any Executive Vice President, any Senior Vice President, any Vice President or any Second Vice President and duly attested and sealed, if a seal is required, by the Corporate Secretary or any Department Secretary or any Assistant Corporate Secretary or any Assistant Department Secretary, or shall be valid and binding upon the Company when duly executed and sealed, if a seal is required, by a duly authorized attorney-in-fact or agent, pursuant to and within the limits of the authority granted by his or her power of attorney.

This power of attorney is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of THE TRAVELERS INDEMNITY COMPANY at a meeting duly called and held on the 1st day of November, 1985:

VOTED: That the signature of any officer authorized by Resolutions of this Board and the Company seal may be affixed by facsimile to any power of attorney or special power of attorney or certification of either given for the execution of any bond, undertaking, recognizance or other written obligation in the nature thereof; such signature and seal, when so used being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

This power of attorney revokes that dated November 1, 1985 on behalf of Rebecca K. Amann, Susan M. Perry, Larry Richardson, Thomas J. Roberts, Stephen G. Sanker, Lori R. Short

IN WITNESS WHEREOF, THE TRAVELERS INDEMNITY COMPANY has caused these presents to be signed by its proper officer and its corporate seal to be hereunto affixed this 20th day of October 19 86



THE TRAVELERS INDEMNITY COMPANY

By

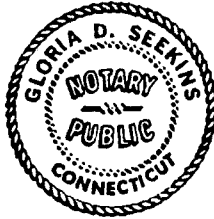
*D.L. Banta*

Secretary, Surety

OCT 2 1987

**State of Connecticut, County of Hartford—ss:**

On this 20th day of October in the year 1986 before me personally came D. L. Banta to me known, who, being by me duly sworn, did depose and say: that he resides in the State of Connecticut; that he is Secretary (Surety) of THE TRAVELERS INDEMNITY COMPANY, the corporation described in and which executed the above instrument; that he signed his name thereto by the above quoted authority; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal, and that it was so affixed by authority of his office under the by-laws of said corporation.



*Gloria D. Seekins*

Notary Public

My commission expires

April 1, 1988

**CERTIFICATION**

I, Paul D. Tubach, Assistant Secretary (Surety) of THE TRAVELERS INDEMNITY COMPANY, certify that the foregoing power of attorney, and the above quoted Resolutions of the Board of Directors of November 1, 1985 have not been abridged or revoked and are now in full force and effect.

Signed and Sealed at Hartford, Connecticut, this 1st day of October 19 87

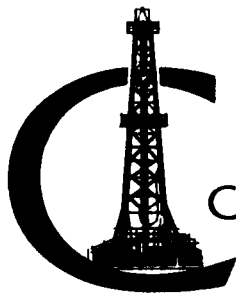


*Paul D. Tubach*

Assistant Secretary, Surety

RECEIVED

OCT 2 1987



# CREDO PETROLEUM CORPORATION

FEDERAL EXPRESS

October 1, 1987

Division of Oil, Gas & Mining  
355 North Temple  
#3 TRIAD Center, Suite 350  
Salt Lake City, UT 84180-1203

Re: Application for Permit to Drill  
CREDO - Samedan Federal #1-13  
Township 17 South, Range 24 East  
Section 13: NW $\frac{1}{4}$ NE $\frac{1}{4}$   
Grand County, Utah

Gentlemen:

Enclosed (in duplicate) is an "Application for Permit to Drill" with attached Exhibit "A" (Ten Point Compliance Program of NTL-6), Exhibit "B" (BOP Schematic) and Exhibit "C" (Multi-Point Requirements to Accompany APD) for your review and approval. I have also enclosed a copy of the "Bond" insured by Travelers Indemnity Company.

Your expeditious approval of this application would be appreciated as we are facing "winter closure" on this lease in less than 30 days.

Sincerely,

CREDO PETROLEUM CORPORATION

Bruce C. Faulkner  
Land Manager

Enclosures: As stated

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OCT 2 1987

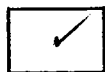
100903

OPERATOR Crude Petroleum Corp DATE 10-2-87WELL NAME Crude - Lamedon Std. #1-13SEC NWNE 13 T 17S R 24E COUNTY Grant

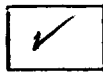
43-019-31246  
 API NUMBER

Std.  
 TYPE OF LEASE

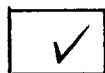
## CHECK OFF:



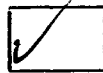
PLAT



BOND

NEAREST  
WELL

LEASE



FIELD

POTASH OR  
OIL SHALE

## PROCESSING COMMENTS:

Crude 13-6 - no other well within 1800'Need water permit

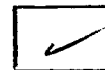
## APPROVAL LETTER:

SPACING: ☐ R615-2-3

UNIT



R615-3-2


136      8/28/86  
 CAUSE NO. & DATE
 

R615-3-3

## STIPULATIONS:

1- Water

0218T



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Norman H. Bangerter, Governor  
Dee C. Hansen, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

October 6, 1987

Credo Petroleum Corporation  
1860 Lincoln Street, Suite 1000  
Denver, Colorado 80295

Gentlemen:

Re: Credo-Samedan Federal 1-13 - NW NE Sec. 13, T. 17S, R. 24E  
793' FNL, 1445' FEL - Grand County, Utah

Approval to drill the referenced well is hereby granted in accordance with the Order of Cause No. 13-6 dated August 28, 1986, subject to the following stipulations:

1. Prior to commencement of drilling, receipt by the Division of evidence providing assurance of an adequate and approved supply of water as required by Chapter 3, Title 73, Utah Code Annotated.

In addition, the following actions are necessary to fully comply with this approval:

1. Spudding notification to the Division within 24 hours after drilling operations commence.
2. Submittal of an Entity Action Form to the Division within five working days of the time that the well is spudded or a change in operations or interests necessitates a change in entity status.
3. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.
4. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or R. J. Firth, Associate Director, (Home) 571-6068.



Page 2  
Credo Petroleum Corporation  
Credo-Samedan Federal 1-13  
October 6, 1987

5. Compliance with the requirements of Rule R615-3-22, Gas Flaring or Venting, Oil and Gas Conservation General Rules.
6. Prior to commencement of the proposed drilling operations, plans for toilet facilities and the disposal of sanitary waste at the drill site shall be submitted to the local health department having jurisdiction. Any such drilling operations and any subsequent well operations must be conducted in accordance with applicable state and local health department regulations. A list of all local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (801) 538-6121.
7. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-019-31246.

Sincerely,



R. J. Firth  
Associate Director, Oil & Gas

as  
Enclosures  
cc: Branch of Fluid Minerals  
D. R. Nielson  
8159T

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE\*  
(Other instructions on  
reverse side)

Form approved.  
Budget Bureau No. 1004-0136  
Expires August 31, 1985

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☐

GAS  
WELL ☒

OTHER

SINGLE  
ZONE ☒

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

Credo Petroleum Corp.

3. ADDRESS OF OPERATOR

1860 Lincoln St., Suite 1000  
Denver, CO 80295

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

793' FNL, 1445FEL, Sec. 13

At proposed prod. zone

Approximately same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

29.5 miles northwesterly of Mack, Colorado

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drig. unit line, if any)

1040

19. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

None

16. NO. OF ACRES IN LEASE

160.0

19. PROPOSED DEPTH

4500

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

160

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

GR. 5784'

22. APPROX. DATE WORK WILL START\*

ASAP

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	9 5/8"	36#-J	400'	175 SX Class G to surface
7 7/8"	4 1/2"	10.5 #J-55LTC	TD	175 SX RFC
*	*	*	*	*

EXHIBITS ATTACHED.

- Plat #1 Location & Elevation Plat
- 'A' Ten Point Compliance Program
- 'B' Blowout Preventer Diagram
- 'C' Multi-point Requirements for APD
- Map #1 Access Road & Radius Map of wells in area
- Map #2 Vicinity Map
- Plat #2 Drill Pad layout with contours
- Plat #3 Cross-sections of Drill Pad
- Plat #4 Drill Rig layout

- \* Alternate casing program: 8 3/4" hole drilled from 400' to 1200', if water flow is encountered in Castlegate, 7" (20#) casing will be set to approximately 1200' with 150 SX; Drill out from 1200' with 7 7/8" hole to TD.

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OCT 13 1987

DIVISION  
OIL, GAS & MINING

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

SIGNED Burt C. Furb

TITLE LAND MANAGER

DATE 9/30/87

(This space for Federal or State office use)

PERMIT NO. 43-019-3616

APPROVAL DATE

APPROVED BY /s/ Marye Drutten/

Acting District Manager

DATE OCT 08 1987

CONDITIONS OF APPROVAL, IF ANY:

CONDITIONS OF APPROVAL ATTACHED

\*See Instructions On Reverse Side

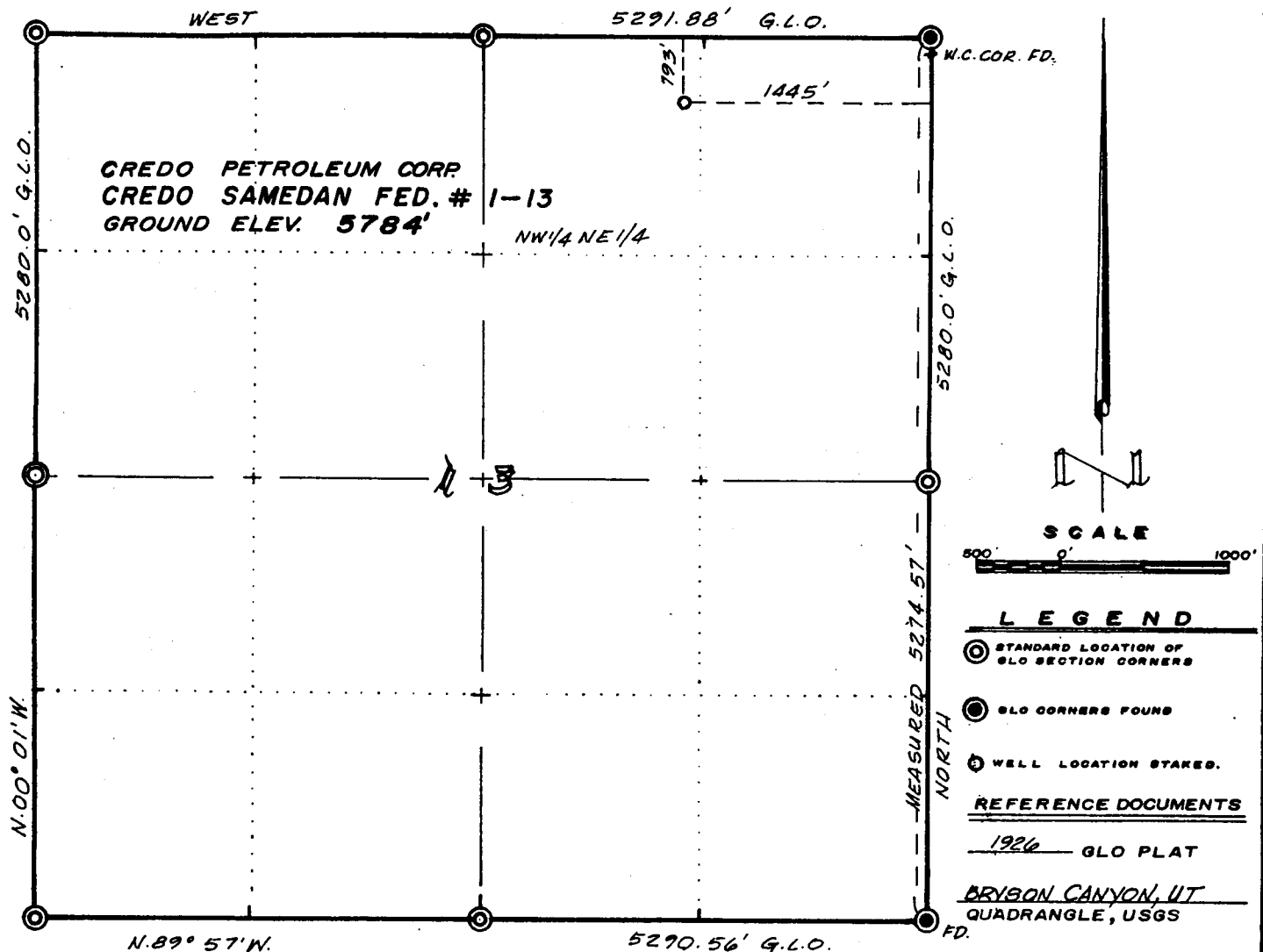
FLARING OR VENTING OF  
GAS IS SUBJECT OF NTL 4-A

DATED 1/1/80

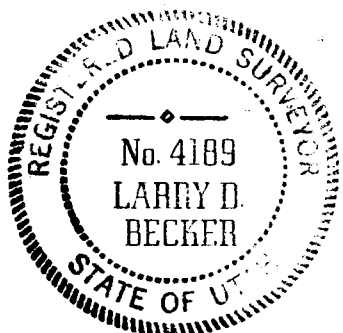
Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within the jurisdiction of the

SEC. 13, T. 17S., R. 24E. OF THE S.L.M.

LOCATION PLAT



THIS WELL LOCATION PLAT WAS PREPARED FOR CREDO PETROLEUM  
TO LOCATE THE CREDO SAMEDAN FED. # 1-13, 793' F.N.L. &  
1445' F.E.L. IN THE NW 1/4 NE 1/4, OF SECTION 13, T. 17S., R. 24E.  
OF THE S.L.M. GRAND COUNTY, UTAH



SURVEYOR'S CERTIFICATE

I, LARRY D. BECKER A' REGISTERED LAND SURVEYOR IN  
THE STATE OF UTAH DO HEREBY CERTIFY THAT THIS  
SURVEY WAS MADE UNDER MY DIRECT SUPERVISION  
AND THAT THIS PLAT REPRESENTS SAID SURVEY.

*Larry D. Becker*

SURVEYED	2/4/87
DRAWN	9/17/87
CHECKED	2/18/87

ENERGY  
SURVEYS &  
ENGINEERING CORP.

715 HORIZON DRIVE, SUITE 330  
GRAND JUNCTION, CO 81501  
(303) 245-7221

SCALE 1" = 1000'

JOB NO.

SHEET OF

Credo Petroleum Corporation  
Well No. Credo Samedan Federal 1-13  
Sec. 13, T. 17 S., R. 24 E.  
Grand County, Utah  
Lease U-62253

CONDITIONS OF APPROVAL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

A. DRILLING PROGRAM

BOPE will be consistent with API RP 53.

**RECEIVED**  
OCT 13 1987

DIVISION OF  
OIL, GAS & MINING

B. SURFACE USE PROGRAM

Surface disturbance and vehicular travel will be limited to the approved location and access road. Any additional area needed will be approved by the Area Manager in advance.

Immediately upon completion of drilling, the location, and surrounding areas will be cleared of all remaining debris, materials, trash, and junk not required for production.

Produced waste water will be confined to an unlined pit for a period not to exceed ninety (90) days after initial production. During the ninety (90) day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted for the District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B).

All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the District Manager.

Gas meter runs for each well will be located within five hundred (500) feet of the wellhead. The gas flowline will be buried from the wellhead to the meter along with any other sections occurring on the pad. Meter runs will be housed and/or fenced.

The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy will be conducted monthly for the first three (3) months on new meter installations and at least quarterly thereafter. The Area Manager will be provided with a date and time for the initial meter calibration and all future meter-proving schedules. A copy of the meter calibration reports will be submitted to the Resource Area Office. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (due to a contraction in the unit or lease or unit boundary change) the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental, or other financial obligation determined by the authorized officer.

All permanent (onsite for six (6) months or longer) structures constructed or installed (including oil well pump jacks) will be painted a flat, nonreflective, earth tone color to match the standard environmental colors, as determined by the Rocky Mountain Five State Interagency Committee. All facilities will be painted within six (6) months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) may be excluded. Colors will be as follows:

Juniper Green

Prior to reseeding, all disturbed areas, including the access roads, will be scarified and left with a rough surface.

The following seed mixture will be used:

<u>Species</u>	<u>lbs/acre</u>
<u>Grasses</u>	
Indian rigegrass	2
Western wheatgrass	2
Thickspike wheatgrass	2
<u>Shrubs</u>	
Fourwing saltbush	3
Prostrate Kochia (summer cypress)	<u>2</u>
	11 lbs/acre

Broadcast seed will be applied at double the above rate.

Final location release will be issued when the seeding is shown to be successful (when perennial vegetation is established).

NOTIFICATIONS

Notify the Grand Resource Area, at (801) 259-8193 for the following:

1 day prior to spudding;

Your contact with the Grand Resource Area Office is:

Jeff Robbins

Office Phone (801) 259-8193

Home Phone (801) 259-7964

Grand Resource Area office address:

Grand Resource Area  
Sand Flats Road, P.O. Box M  
Moab, Utah 84532

Notify the Moab District Office, Branch of Fluid Minerals, at (801) 259-6111 for the following:

No well abandonment operations will be commenced without the prior approval of the District Manager. In the case of newly drilled dry holes, and in emergency situations, verbal approval can be obtained by calling the following individuals, in the order listed.

Steven Jones, Petroleum Engineer

Office Phone: (801) 259-6111  
Home Phone: (801) 259-7404

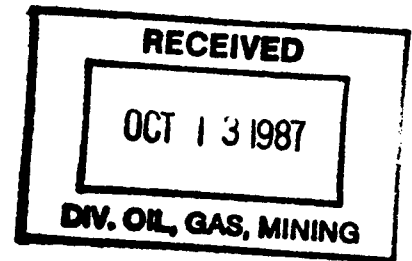
Lynn Jackson, Chief, Branch of Fluid Minerals

Office Phone (801) 259-6111  
Home Phone (801) 259-7990

Paul Brown, I&E Coordinator

Office Phone (801) 259-6111  
Home Phone (801) 259-7018

24 hours advance notice is required for all abandonments.



BEFORE THE BOARD OF OIL, GAS & MINING  
DEPARTMENT OF NATURAL RESOURCES IN AND FOR THE STATE OF UTAH

IN THE MATTER OF THE )  
PETITION OF CREDO PETROLEUM )  
CORP. FOR AN EXCEPTION WELL )  
LOCATION IN THE NORTHEAST )  
QUARTER NORTHEAST QUARTER )  
OF SECTION 13, TOWNSHIP 17 )  
SOUTH, RANGE 24 EAST, S.L.M., )  
GRAND COUNTY, UTAH )  
\_\_\_\_\_ )

WITHDRAWAL OF PETITION

Docket No. 87-026

Cause No. \_\_\_\_\_

Petitioner, Credo Petroleum Corp., by and through its attorneys, A. John Davis, of Pruitt, Gushee & Fletcher, hereby formally withdraws its Petition, Docket No. 87-026, in the above-referenced matter.

DATED this 12th day of October, 1987.

CREDO PETROLEUM CORP.

By: \_\_\_\_\_

A. John Davis, III  
1850 Beneficial Life Tower  
Salt Lake City, Utah 84111  
(801) 531-8446



MAILING CERTIFICATE

I hereby certify that on the 12th day of October, 1987, I mailed true and correct copies of the foregoing WITHDRAWAL OF PETITION, postage prepaid, to the following:

Carson Water Co.  
5241 Spring Mountain Road  
Las Vegas, Nevada 89102  
Attention: Ed Kulas

EM Nominee Partnership  
Land Department  
4582 S. Ulster Parkway, #1700  
Denver, Colorado 80237

Quinoco Oil & Gas 1983-2  
Land Department  
4582 S. Ulster Parkway, #1700  
Denver, Colorado 80237


Quinoco Oil & Gas 1983-3  
Land Department  
4582 S. Ulster Parkway, #1700  
Denver, Colorado 80237

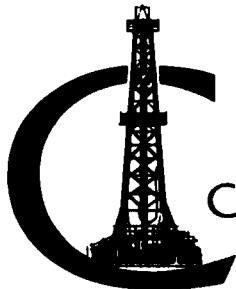
Quinoco Oil & Gas 1983-4  
Land Department  
4582 S. Ulster Parkway, #1700  
Denver, Colorado 80237

Lone Mountain Production Co.  
Land Department  
408 Petroleum Building  
Billings, Montana 59103  
Attention: Jim Routson

New England Energy  
Land Department  
1616 Glenarm Pl., 2550  
Denver, Colorado 80202

Samedan Oil Co.  
Land Department  
1616 Glenarm Pl., 2550  
Denver, Colorado 80202

  
Alana Leccia



## CREDO PETROLEUM CORPORATION

October 21, 1987

United States Department  
of the Interior  
Bureau of Land Management  
Moab District  
P.O. Box 970  
Moab, UT 84532

Attention: Mr. Steve Jones

State of Utah Natural Resources  
355 W. North Temple  
#3 Triad Center - Suite 350  
Salt Lake City, UT 84180

Attention: Mr. John Baza

Re: "Revised" Application for Permit  
to Drill  
CREDO - Samedan - Federal #1-13  
Township 17 South, Range 24 East, SLM  
Section 13: NW $\frac{1}{4}$ NE $\frac{1}{4}$   
Grand County, Utah

Gentlemen:

Enclosed is a "revised" APD pertaining to the referenced well which contains a change in the surface casing program. Per verbal approval with both of your offices, the 9-5/8" surface pipe will be set to a depth of 300' instead of 400' with an anticipated casing TD to be in the Mancos shale. Please advise if you have any questions.

Sincerely,

CREDO PETROLEUM CORPORATION

Bruce C. Faulkner  
Land Manager

Enclosure: As stated

RECEIVED

OCT 23 1987

DEPT OF OIL  
AND GAS

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

TYPE OF WORK  
DRILL ☒ DEEPEN ☐ PLUG BACK ☐

TYPE OF WELL  
OIL WELL ☐ GAS WELL ☒ OTHER ☐

SINGLE TUBE ☒ MULTIPLE TUBE ☐

NAME OF OPERATOR  
Credo Petroleum Corp.

ADDRESS OF OPERATOR  
1360 Lincoln St., Suite 1000  
Denver, CO 80295

LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
At surface 793' FNL, 1445FEL, Sec. 13  
At proposed prod. zone Approximately same

DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
29.5 miles northwesterly of Mack, Colorado

DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPOSED OR LEASE LINE, FT.  
(Also to nearest drilg. unit line, if any) 1040

DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. None

ELEVATIONS (Show whether DP, ST, GR, etc.) GR. 5734'

LEASE DESIGNATION AND SERIAL NO.  
U-62253

IF LEASE, GIVE NAME OF LEASEE OR TRUSTEES  
102819

LEASE AGREEMENT NAME

FARM OR LEASE NAME  
Federal

WELL NO.  
Credo Samedan Fed.#1-13

FIELD AND POOL, OR WILDCAT  
State Line

SEC. T. R. M. OR S.E. AND ABBREVIATED AREA  
NW4NE4SEC.13  
T.17S., R24E., SLM

COUNTY OR PARISH 12. STATE 13.  
Grand Utah

NO. OF ACRES ASSIGNED TO THIS WELL 150

ROTARY OR CABLE TOOLS Rotary

APPROX. DATE WORK WILL START\* ASAP

PROPOSED CASING AND CEMENTING PROGRAM				
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	9 5/8"	36#-J	300'	175 SX Class G to surface
7 7/8"	4 1/2"	10.5 #J-55L TC	TD	175 SX RFC
*	*	*	*	*

EXHIBITS ATTACHED.

Plat #1 Location & Elevation Plat

'A' Ten Point Compliance Program

'B' Blowout Preventer Diagram

'C' Multi-point Requirements for APD

Map #1 Access Road & Radius Map of wells in area

Map #2 Vicinity Map

Plat #2 Drill Pad layout with contours

Plat #3 Cross-sections of Drill Pad

Plat #4 Drill Rig layout

\* Alternate casing program: 8 3/4" hole drilled from 300' to 1200', if water flow is encountered in Castlegate, 7" (20#) casing will be set to approximately 1200' with 150 SX; Drill out from 1200' with 7 7/8" hole to TD.

ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

SIGNED Bruce J. Faul TITLE Lease Manager DATE 10/21/87

(This space for Federal or State office use)

PERMIT NO. 43-014-36240 APPROVAL DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

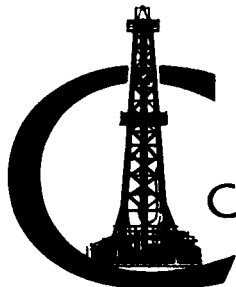
110410

## DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

API #43-019-31246

NAME OF COMPANY: CREDO PETROLEUMWELL NAME: CREDO-SAMEDAN FEDERAL 1-13SECTION NW NE 13 TOWNSHIP 17S RANGE 24E COUNTY GrandDRILLING CONTRACTOR Veco DrillingRIG # 2SPUDDED: DATE 10-23-87TIME HOW RotaryDRILLING WILL COMMENCE REPORTED BY Bruce FalknerTELEPHONE #DATE 11-2-87 SIGNED AS



# CREDO PETROLEUM CORPORATION

December 9, 1987

United States Department  
of the Interior  
Bureau of Land Management  
Moab District  
P.O. Box 970  
Moab, UT 84532

**RECEIVED**  
DEC 11 1987

DIVISION OF  
OIL, GAS & MINING

Attention: Mr. Steve Jones

State of Utah Natural Resources  
355 W. North Temple  
#3 Triad Center - Suite 350  
Salt Lake City, UT 84180

Attention: Mr. John Baza

Re: CREDO - Samedan - Federal #1-13  
Township 17 South, Range 24 East, SLM  
Section 13: NW $\frac{1}{4}$ NE $\frac{1}{4}$   
Grand County, Utah

Gentlemen:

Pursuant to the above referenced well are the following:

- (i) Form 3160-4 (in duplicate)
- (ii) Electric logs: Dual ☒ Induction-SFL, ☒ Formation  
Density Compensated Neutron
- (iii) Drilling and Completion Report
- (iiii) Geologist Report

Please advise if you need anything further.

Sincerely,

CREDO PETROLEUM CORPORATION

Bruce C. Faulkner  
Land Manager

Enclosures: As stated

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE

(See instructions on  
reverse side)

Form approved.  
Budget Bureau No. 1004-0137  
Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐  
2. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. REVR. ☐ Other ☐  
3. NAME OF OPERATOR: CREDO Petroleum Corporation  
4. ADDRESS OF OPERATOR: 1860 Lincoln Street - Suite 1000, Denver, CO 80295  
5. LOCATION OF WELL (Report location clearly and in accordance with any State requirements):  
At surface 798' FNL, 1,445' FEL, Section 13  
At top prod. interval reported below approximately same  
At total depth approximately same

DEC 11 1987

DIVISION OF  
OIL, GAS & MINING

5. LEASE DESIGNATION AND SERIAL NO.

U-62253

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Ort.

7. UNIT AGREEMENT NAME

121714

8. FARM OR LEASE NAME

Federal

9. WELL NO.

CREDO-Samedan Federal #1-13

10. FIELD AND POOL, OR WILDCAT

Undesignated

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

NW1/4 of Section 13,  
T17S-R24E, S.L.M.

12. COUNTY OR  
PARISH  
Grand

13. STATE  
Utah

15. DATE SPUDDED 10/22/87 16. DATE T.D. REACHED 10/27/87 17. DATE COMPL. (Ready to prod.) 11/19/87 18. ELEVATIONS (DF, RKB, RT, OR, ETC.)\* 5,784' GL; 5,793' KB 19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD 4,524' 21. PLUG, BACK T.D., MD & TVD 4,425' 22. IF MULTIPLE COMPL., HOW MANY? N/A 23. INTERVALS DRILLED BY → 4,524' 24. ROTARY TOOLS 4,524' 25. CABLE TOOLS N/A

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*

Dakota sand 4,212' - 4,230'; 4,247' - 4,266'

25. WAS DIRECTIONAL  
SURVEY MADE  
Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN

Schlumberger: Dual Induction-SFL, Formation Density Comp. Neutron

27. WAS WELL CORED  
No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9-5/8"	32#	338'	12-1/4"	225 sks Class "H"	None
4-1/2"	10.50#	4,478'	7-7/8"	300 sks Thixotropic	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-3/8"	4,273'	None

31. PERFORATION RECORD (Interval, size and number)

4,216', 4,222', 4,225', 4,228', 4,250',  
4,252', 4,255', 4,258', 4,261', 4,264'  
(one 10 gram shot/interval)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
4,216'-4,222'	500 gal. 7-1/2% MSR-100
4,216'-4,222'	411 Barrels 4% KCL gel
4,216'-4,222'	84,000# 20-40 Mesh Sand
4,216'-4,222'	1,299,000 standard cubic feet

33.\* PRODUCTION

nitrogen

DATE FIRST PRODUCTION 11/19/87 PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing WELL STATUS (Producing or shut-in) Shut-in

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
11/18/87	6 hours	3/4" Plate	→	-0-	1,516	-0-	N/A
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
110 PSI	375 PSI	→	-0-	1,516	-0-	N/A	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

To be sold

TEST WITNESSED BY

Ralph Snow

35. LIST OF ATTACHMENTS

Electric Logs, Drilling and Completion Report, Geologist's Report

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

*Burr C. Jaul*

TITLE Land Manager

DATE 11/30/87

\*(See Instructions and Spaces for Additional Data on Reverse Side)

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

38. GEOLOGIC MARKERS

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
Dakota	4,212'	4,230'	tight, connection flares	Mancos	Surface	Same
Dakota	4,247'	4,266'	tight, connection flares	Dakota Silt	4,118'	Same
Dakota	4,317'	4,324'	wet	Dakota Sand	4,212'	Same
Cedar Mountain	4,374'	4,377'	wet	Cedar Mountain	4,374'	Same
Morrison	4,386'	4,396'	wet	Morrison	4,386'	Same
Morrison	4,442'	4,453'	wet, had small amount of condensate in top, zone calculates wet on electric logs			

CREDO PETROLEUM CORPORATION

DRILLING REPORT  
DEVELOPMENT

OPERATOR: CREDO Petroleum Corporation  
WELL NAME: CREDO - Samedan - Federal #1-13  
PROSPECT: Bryson Canyon  
LOCATION: 793' FNL, 1,445' FEL  
Sec. 13: T17S-R24E  
Grand County, Utah  
FIELD: Bryson Canyon (Dakota Ss)  
CONTRACTOR: VECO Rig #2  
ELEVATION: 5,784' Ground; 5,793' KB  
PROJ. TD: 4,500'  
CREDO WI: 25%

**RECEIVED**  
DEC 11 1987

DIVISION OF  
OIL, GAS & MINING

10/22/87 Day 1. Rig-up. Spud at 11:00 p.m.

10/23/87 Day 2. TD at 7:00 a.m. - 180'. Present operation: drilling 12-1/4" hole dusting, survey 1-1/4° at 104'.

10/24/87 Day 3. TD at 9:30 a.m. - 345'. Present operation: testing BOP. Previous day: TD at 345' at 1:30 p.m., (12-1/4" hole) made total of 165', ran 8 joints of 9-5/8", 32# casing, total 327', landed at 338', cemented with 225 sacks of class H with 3% ccl and 1/4 pound sack cello-flake. Plugged down at 6:30 p.m. on 10/23/87. Nipped up BOP at 9:30 a.m. on 10/24/87. To drill out from under surface at approximately 11:00 a.m. on 10/24/87.

10/25/87 Day 4. TD at 8:30 a.m. - 1,275'. Present operation: drilling. Deviation surveys: 1° at 624', 1° at 1,113'.

10/26/87 Day 5. TD at 8:30 a.m. - 3,500'. Present operation: tripping for bit. Deviation surveys: 1° at 1,617', 1-3/4° at 2,180', 3/4° at 2,678', 1-1/2° at 3,500'.

10/27/87 Day 6. TD at 5:30 a.m. - 4,500'. Present operation: circulating for logs. Drilled to 4,445' - had small flares, got wet, mudded up, drilled to 4,500' with mud. Deviation survey: 4° at 3,997'. Did have small flares on connections in Morrison and Dakota. When it got wet, had fluid - lot of condensate in pits. (No gas in Dakota, had good sands. Geologist estimates approximately 40' - very similar to Lone Mountain 18-4 Quinoco well.)

10/28/87 Day 7. Ran 108 joints 4-1/2", 10.5#; total pipe 4,478'. Set at 4,478'. Plug back 4,425'. Cemented with 300 sacks 10.0 Thixotropic, ran 1,000 gallons of mud flush ahead, plugged down at 1:30 p.m., picked up BOP and set slips (set slips with 70% of casing weight). Released rig at 4:00 p.m.



OPERATOR: CREDO Petroleum Corporation  
WELL NAME: CREDO - Samedan - Federal #1-13  
PROSPECT: Bryson Canyon  
LOCATION: 793' FNL, 1,445' FEL  
Sec. 13: T17S-R24E  
Grand County, Utah  
FIELD: Bryson Canyon (Dakota Ss)  
CONTRACTOR: VECO Rig #2  
ELEVATION: 5,784' Ground; 5,793' KB  
PROJ. TD: 4,500'  
CREDO WI: 25%

11/7/87 Day 8. Set deadmen.

11/8/87 Day 9. Rig up Dyna Jet to run CBL. Logging tools reached TD of 4,293'. Log run covered 4,287' to 2,800'. Cement top at 2,996'. Excellent bond.

Road conditions: dry.

11/9/87 Day 10. Welded on tubing head. Moved in, rigged up Monument Well Service Rig #3 and support equipment. Spotted frac tank, hauled water. Nippled up tubing head and BOP. Unloaded 138 joints of new 2-3/8" J-55 4.75# tubing. Picked up a used 3-3/4" bit and 4-1/2" casing scraper. Strap and run 75 joints 2-3/8" tubing. Bottom 2,450'. Shut down for night.

11/10/87 Day 11. Strapped and run remainder of 2-3/8" tubing, tagged PBTD at 4,410'. Rigged up and pump reversed bottoms up plus 20 barrels, pressure tested casing, tubing head and BOP to 4,200 PSI, held test for 5 minutes, no leak off, dropped standing valve down tubing, tested tubing to 7,000 PSI, held OK, rigged up swab, swabbed well dry for perfs, 3-1/2 hours. Tripped out of hole with tubing, layed down bits and scraper, recovered standing valve, rigged up Dyna Jet to perf. Perfed 4,216', 4,222', 4,225', 4,228', 4,250', 4,252', 4,255', 4,258', 4,261', 4,264', used ten 10 gram jet shots, select fire technique, used 3-1/8" hollow carrier, tagged PBTD at 4,415' with wireline, fluid level at 4,370'. Rigged down Dyna Jet, picked up 4-1/2" model R-3 packer, run seating nipple one joint above packer, tripped in hole, set packer at 4,172', shut well in overnight.

OPERATOR: CREDO Petroleum Corporation  
WELL NAME: CREDO - Samedan - Federal #1-13  
PROSPECT: Bryson Canyon  
LOCATION: 793' FNL, 1,445' FEL  
Sec. 13: T17S-R24E  
Grand County, Utah  
FIELD: Bryson Canyon (Dakota Ss)  
CONTRACTOR: VECO Rig #2  
ELEVATION: 5,784' Ground; 5,793' KB  
PROJ. TD: 4,500'  
CREDO WI: 25%

11/11/87 Day 12. This morning shut in tubing pressure 25#. Blew down tubing, gas would burn, flow rate - trace. Pulled one swab run - no fluid recovered. Rigged up Dowell Schlumberger to pump acid breakdown, pumped 500 gallons 7-1/2% MSR-100. Dropped 15 ball sealers, flushed with 17-1/2 barrels 4% KCL water, pumped total of 30 barrels. Initial breakdown pressure and rate - 1480 PSI - 3-1/2 barrel/min. Average breakdown pressure and rate - 1700 PSI - 3.9 barrel/min. Final breakdown pressure and rate - 2250 PSI - 3.7 barrel/min. Good ball action. ISIP 940#; frac gradient .65, 5" shut in 170#, 10" shut in 0#, rig down Dowell Schlumberger. Rig up to swab, pulled 4 swab runs, last run was dry. Flammable gas ahead of 3rd and 4th run. Recovered 18-1/2 barrels, released packer, run to 4,405'. Pulled out of hole with tubing, layed down packer, run seat nipple on bottom, tripped in hole, ran seat nipple, landed at 4,398'. Rig up to swab. Pulled 3 runs with seat nipple, recovered 2 barrels. Casing pressure at 20 PSI at 12:30 p.m. 1:00 p.m. casing pressure 40 PSI. Pulled swab run, recovered 1/4 barrel of fluid. 2:00 p.m. casing pressure 65 PSI. Pulled swab - no fluid recovered. Shut well in for night.

OPERATOR: CREDO Petroleum Corporation  
 WELL NAME: CREDO - Samedan - Federal #1-13  
 PROSPECT: Bryson Canyon  
 LOCATION: 793' FNL, 1,445' FEL  
 Sec. 13: T17S-R24E  
 Grand County, Utah  
 FIELD: Bryson Canyon (Dakota Ss)  
 CONTRACTOR: VECO Rig #2  
 ELEVATION: 5,784' Ground; 5,793' KB  
 PROJ. TD: 4,500'  
 CREDO WI: 25%

11/12/87 Day 13. Engineer arrived on location. Casing pressure = 580#, tubing pressure = 175#. Blew well down - had heavy mist. Recovered approximately 4 - 5 barrels of acid water. Began 15 minute flow tests.

<u>Time</u>	<u>Casing Pressure</u>	<u>Tubing Pressure</u>	<u>Flow Rate</u>
8:25 a.m.	80	70	No rate
8:40 a.m.	58	42	76 MCFPD
8:55 a.m.	50	29	57 MCFPD
9:10 a.m.	48	18	41 MCFPD
9:25 a.m.	48	12	33 MCFPD
9:40 a.m.	48	10	30 MCFPD
9:55 a.m.	49	10	30 MCFPD
10:10 a.m.	49	10	30 MCFPD
10:25 a.m.	50	10	30 MCFPD

10:30 a.m. shut in tubing, started flowing well up casing on 1/8" plate.

<u>Time</u>	<u>Casing Pressure</u>	<u>Tubing Pressure</u>	<u>Flow Rate</u>
10:45 a.m.	52	20	22 MCFPD
11:00 a.m.	52	20	22 MCFPD
11:15 a.m.	53	20	22.4 MCFPD
11:30 a.m.	55	20	23 MCFPD
11:45 a.m.	56	20	23.4 MCFPD
12:00 noon	56	20	23.4 MCFPD

12:05 p.m. caught gas sample - shut well in overnight.

OPERATOR: CREDO Petroleum Corporation  
 WELL NAME: CREDO - Samedan - Federal #1-13  
 PROSPECT: Bryson Canyon  
 LOCATION: 793' FNL, 1,445' FEL  
 Sec. 13: T17S-R24E  
 Grand County, Utah  
 FIELD: Bryson Canyon (Dakota Ss)  
 CONTRACTOR: VECO Rig #2  
 ELEVATION: 5,784' Ground; 5,793' KB  
 PROJ. TD: 4,500'  
 CREDO WI: 25%

11/13/87 Day 14. Engineer on location. Casing pressure 600 PSI, tubing pressure 600 PSI. Blew well down. Recovered a trace of spent acid. Layed down 13 joints of 2-3/8" tubing. Picked up 3-1/8" OD blast joint and 4" N80 pup joint. Landed tubing and BOP for frac. Bottom of tubing 3,981'. Shut well in. Rigged down Monument Well Service Rig #3. Moved off location. Waiting for frac equipment. Anticipate frac on Tuesday or Wednesday.

11/17/87 Day 15. Moved in Dowell Schlumberger frac equipment yesterday afternoon and this morning. Plan to frac today.

Rigged up Monument Well Service Rig #7. Rigged up Dowell Schlumberger. Had shut in pressure of 900 PSI on tubing and casing. Dowell Schlumberger gauged 920# on their instruments. Started pumping at 1:40 p.m. Shut down at 3:00 p.m. Pumped 411 barrels of gelled 4% KCL water; pumped 84,000# 20-40 Mesh Sand; pumped 1,299,000 standard cubic feet of nitrogen.

<u>Tubing Pressure</u>	<u>Nitrogen Rate</u>	<u>Casing Pressure</u>	<u>Liquid Rate</u>	<u>Nitrogen Rate</u>
3590 PSI	14,000/"	2020 PSI	4.8 BOPM	1,000/"
<u>Average Pressure Rate</u>				
3800 PSI	12,500/"	1960 PSI	6 BOPM	1,000/"
<u>Start of Flush</u>				
4020 PSI	12,400/"	2020 PSI	6.4 BOPM	1,000/"
<u>End of Flush</u>				
4040 PSI	12,400/"	2600 PSI	6.4 BOPM	1,000/"

OPERATOR: CREDO Petroleum Corporation  
WELL NAME: CREDO - Samedan - Federal #1-13  
PROSPECT: Bryson Canyon  
LOCATION: 793' FNL, 1,445' FEL  
Sec. 13: T17S-R24E  
Grand County, Utah  
FIELD: Bryson Canyon (Dakota Ss)  
CONTRACTOR: VECO Rig #2  
ELEVATION: 5,784' Ground; 5,793' KB  
PROJ. TD: 4,500'  
CREDO WI: 25%

11/17/87 Day 15. ISIP 3425# on tubing, 2200# on casing. Frac gradient .87. 5" shut in pressures - 3153# tubing; 1992# casing. 10" shut in pressures - 3058# tubing; 1932# casing. 15" shut in pressures - 3000# tubing; 1870# casing. Shut well in. Rigged down Dowell Schlumberger. Waited 2 hours to start flow back at 5:00 p.m. Casing at 1300 PSI. Started flow back up tubing on 3/4" choke. Displaced water out of annulus with 40,000 standard cubic feet of nitrogen. Left well flowing overnight.

Results of gas sample analysis: real gross dry heating value - 1192 BTU/cubic foot.

Methane 86%  
Ethane 6%  
Propane 2.5%  
CO<sub>2</sub> .68%  
Nitrogen .78%

CO<sub>2</sub> and Nitrogen = 1-1/2% inerts

11/18/87 Day 16. Monument Well Service crew on location. Flow tee washed out. Frac job ruined choke tee and cage nipple. Shut well in. Removed flow tee; flowed well up tubing and casing. Nippled up stripping head. Layed down blast joint and N-80 pup joint. Run in hole with 2-3/8" tubing. Tagged sand at 4,300'. Cleaned out to PSTD using well gas. Layed down 5 joints of tubing. Stripped in tubing hanger. Landed tubing. 131 joints in well, Strapped 4,265.29'. Bottom of tubing landed 4,273'. Nippled down BOP. Nippled up tubing head. Shut well in at 1:00 p.m. Rigged down Monument Well Service Rig #7. At 10:00 p.m. shut in casing pressure 830#; tubing 830#. Started flow test on 3/4" plate.

OPERATOR: CREDO Petroleum Corporation  
WELL NAME: CREDO - Samedan - Federal #1-13  
PROSPECT: Bryson Canyon  
LOCATION: 793' FNL, 1,445' FEL  
Sec. 13: T17S-R24E  
Grand County, Utah  
FIELD: Bryson Canyon (Dakota Ss)  
CONTRACTOR: VECO Rig #2  
ELEVATION: 5,784' Ground; 5,793' KB  
PROJ. TD: 4,500'  
CREDO WI: 25%

11/18/87 Day 16. 11:00 p.m. - casing 385#, tubing 190#, rate 2,515  
MCFGPD.

12:00 p.m. - casing 375#, tubing 145#, rate 1,953  
MCFGPD.

1:00 a.m. - casing 375#, tubing 130#, rate 1,766  
MCFGPD.

2:00 a.m. - casing 375#, tubing 120#, rate 1,641  
MCFGPD.

3:00 a.m. - casing 375#, tubing 112#, rate 1,541  
MCFGPD. (Started making light mist of fluid)

4:00 a.m. - casing 375#, tubing 110#, rate 1,516  
MCFGPD. (Light mist of fluid) Changed to 1/2" plate  
at 4:00 a.m.

5:00 a.m. - casing 395#, tubing 243#, rate 1,437  
MCFGPD. (Light mist)

6:00 a.m. - casing 398#, tubing 230#, rate 1,364  
MCFGPD. (Light mist)

7:00 a.m. - casing 398#, tubing 230#, rate 1,364  
MCFGPD. (Light mist) Changed to 1/4" plate.

8:00 a.m. - casing 510#, tubing 488#, rate 716 MCFGPD.  
(Light mist starting to dry out)

Left well flowing. Engineer to wait 12 hours and test  
again tonight.

OPERATOR: CREDO Petroleum Corporation  
WELL NAME: CREDO - Samedan - Federal #1-13  
PROSPECT: Bryson Canyon  
LOCATION: 793' FNL, 1,445' FEL  
Sec. 13: T17S-R24E  
Grand County, Utah  
FIELD: Bryson Canyon (Dakota Ss)  
CONTRACTOR: VECO Rig #2  
ELEVATION: 5,784' Ground; 5,793' KB  
PROJ. TD: 4,500'  
CREDO WI: 25%

11/19/87 Day 17. 8:00 p.m. Engineer on location. Well flowing against 1/4" plate. Flowing casing pressure - 548#; tubing pressure 518#; rate 760 MCFGPD. Caught gas sample - shut well in, removed test equipment.

END OF REPORT

**RECEIVED**  
DEC 11 1987

DIVISION OF  
OIL, GAS & MINING

October 29, 1987

Andrew M. Taylor, Ph.D.  
Consulting Geologist  
CREDO Petroleum Corporation

Re: Observations on the #1-13 CREDO - Samedan Federal well.

There was no flare through the two Dakota sand benches, or the Cedar Mountain sandstone. A small connection flare (5 or 6 feet) occurred at 4,397', in a 12' sandstone which may be in the basal portion of the Cedar Mountain. A second small connection flare (5 or 6 feet) occurred at 4,424' in shale (Morrison?). A third and continuous flare (10 or 12 feet) began at 4,441' at the top of a 13' sandstone (Morrison?). The flare appeared to have some condensate in it. At this point, the rig converted over to mud. The gas flare continued to burn. The hole at 4,441' had 300' of water, oil, and condensate in it and the hole was beginning to cake off, raising the hole pressure and increasing the danger of a downhole fire, hence the mud. The rising mud column pushed the water, oil and condensate out into the mud pit causing a considerable fire in the pit. The fire in the pit continued for 20 or 30 minutes as a considerable volume of water, oil and condensate was flushed out. The 10 or 12' gas flare burned throughout until the mud reached the pit. I estimate a minimum of two barrels of oil and condensate burned in the pit. The following morning, a small amount of light green oil and a considerable amount of a heavy viscous grease-like oil was visible on the surface of the pit.

Enclosures: 1) Drilling time charts over the Dakota and Morrison zones.  
2) Copy electric log with gas flares spotted.

Andrew M. Taylor



# A STAR RECORDING

12 HOUR CHART

COMPANY

WELL

TOTAL DEPTH ON

REMARKS

TIME ON

DATE

WELL NUMBER

TOTAL DEPTH OFF

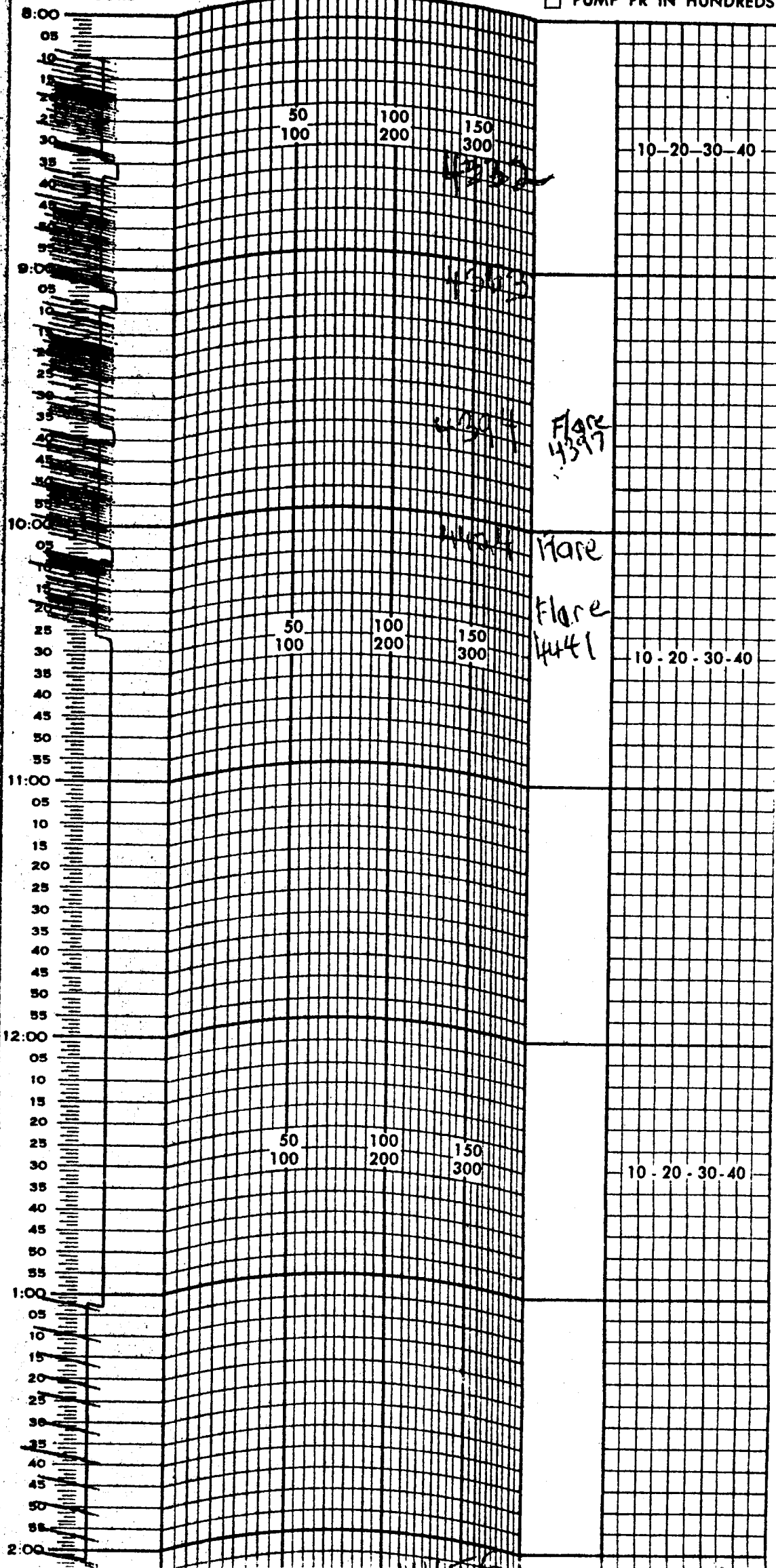
CHART NO. S10-25R

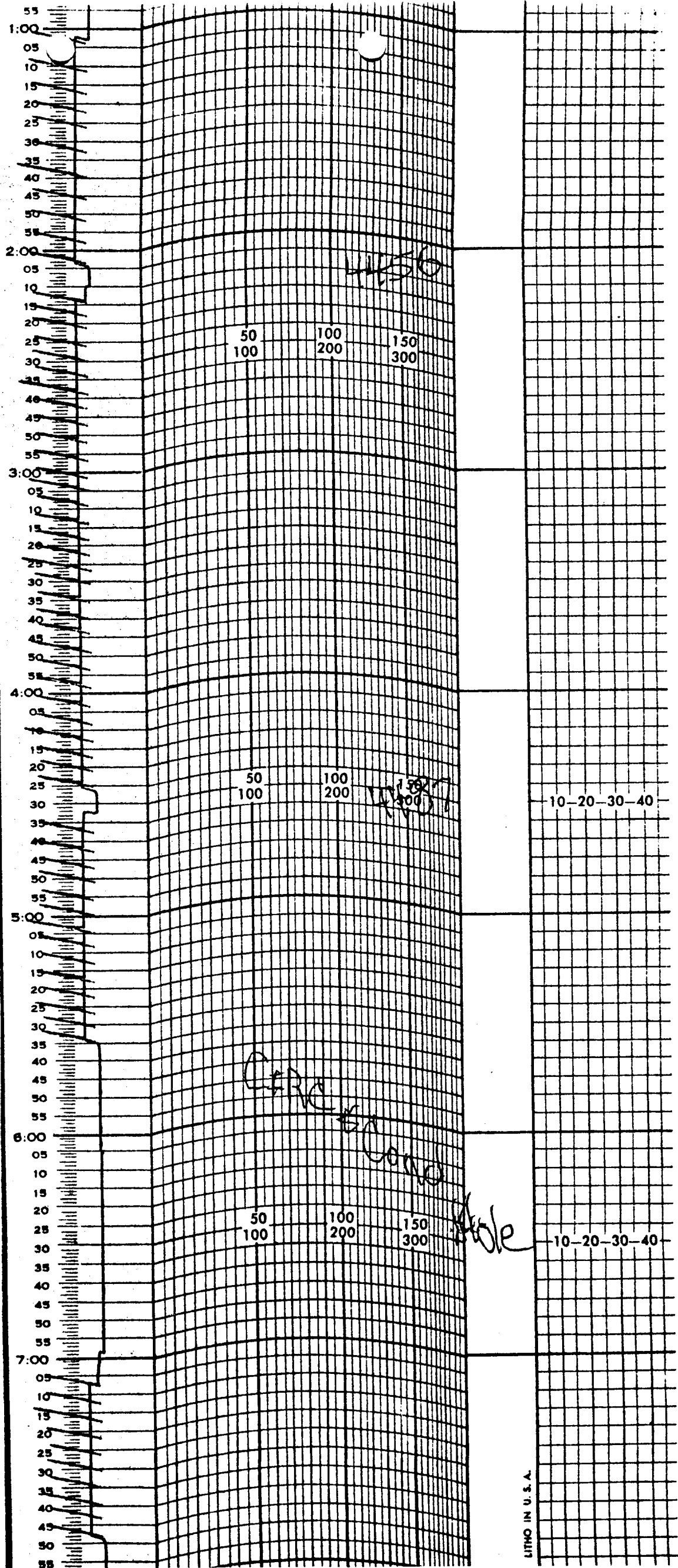
WEIGHT IN THOUSANDS

☐ TORQUE IN TENS  
OR

☐ PUMP PR IN HUNDREDS

TIME RECORD





## LONE MOUNTAIN PRODUCTION COMPANY

Mailing Address:  
P.O. Box 3394  
Billings, MT 59103-3394

(406) 245-5077  
FAX 248-6321

Shipping Address:  
100 North 27th Street  
Suite 650  
Billings, MT 59101

October 1, 1999

State of Utah  
Division of Oil, Gas & Mining  
1594 W. Temple, Suite 1210  
P. O. Box 145801  
Salt Lake City, Utah 84114-5801

RE: DESIGNATION OF SUCCESSOR OPERATOR  
CREDO FEDERAL NO. 1-13 WELL  
NWNE SECTION 13: T17S-R24E  
GRAND COUNTY, UTAH

Gentlemen:

Enclosed is one Designation of Successor Operator, in duplicate, notifying your office of the change of operator for the referenced well, effective October 1, 1999.

The former operator is Credo Petroleum Corporation.

Should you have any questions or need further information please contact our office at the letterhead address or phone number.

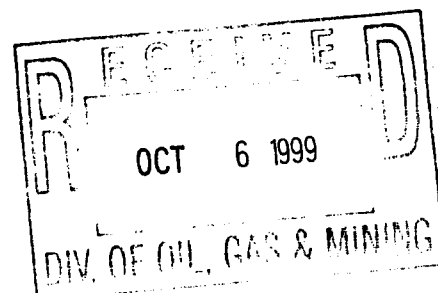
Sincerely,

LONE MOUNTAIN PRODUCTION COMPANY



Carolyn George  
Land Department

Enclosure



DESIGNATION OF SUCCESSION OPERATOR

Communitization Agreement Number UT060P4988C684

Designation of successor Operator for communitized area, County of Grand, State of Utah, being:

Township 17 South, Range 24 East, S.L.M.  
Section 13: NE¼  
Containing 160.00 acres, more or less

This indenture, dated as of the 1st day of October, 1999, by and between Lone Mountain Production Company, hereinafter designated as "First Party," and the owners of communitized working interest, hereinafter designated as "Second Parties".

Whereas, under the provisions of the Act of February 25, 1920, 41 Stat. 437; 30 U.S.C. Secs. 181, et seq., as amended by the Act of August 8, 1946, 60 Stat. 950, a Communitization Agreement for the above Communitized Area, effective October 7, 1987, wherein Credo Petroleum Corporation is designated as Operator of the communitized area; and

Whereas said Credo Petroleum Corporation, has resigned as Operator and the designation of a successor Operator is now required pursuant to the terms thereof; and


Whereas the First Party has been and hereby is designated by Second Parties as Operator of the Communitized area, and said First Party desires to assume all rights, duties, and obligations of Operator under the said Communitization Agreement.

Now, therefore, in consideration of the premises hereinbefore set forth and the promises hereinafter stated, the First Party hereby covenants and agrees to fulfill the duties and assume the obligations of Operator of the Communitized Area under and pursuant to all the terms of said Communitization Agreement, and the Second Parties covenant and agree that, effective upon acceptance of this indenture by the District Manager, Bureau of Land Management, First Party shall be granted the exclusive right and privilege of exercising any and all rights and privileges as Operator, pursuant to the terms and conditions of said Communitization Agreement; said Agreement being hereby incorporated herein by reference and made a part hereof as fully and effectively as though said Agreement were expressly set forth in this instrument.

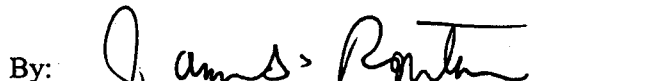
In witness whereof, the parties hereby have executed this instrument on this date, October 1, 1999, to be effective as of the date hereinabove set forth.

FIRST PARTY

ATTEST:


  
Judy K. Rice, Secretary

LONE MOUNTAIN PRODUCTION COMPANY


By:   
James G. Routson, President

SECOND PARTY

ATTEST:

  
Judy K. Rice, Secretary

LONE MOUNTAIN PRODUCTION COMPANY

By:   
James G. Routson, President

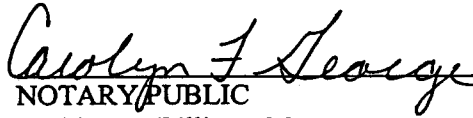
In lieu of submitting all Second Party signatures, the First Party hereby certifies that the required working interest owner approvals have been obtained.

STATE OF MONTANA                    )  
  SS.  
COUNTY OF YELLOWSTONE         )

On the 1<sup>th</sup> day of October, 1999, personally appeared before me James G. Routson, signer of the above instrument, who duly acknowledged to me that he executed the same as President of Lone Mountain Production Company.

Witness my hand and official seal.

(SEAL)


  
\_\_\_\_\_  
NOTARY PUBLIC  
Residing at Billings, Montana  
My Commission Expires: 10/20/1999

STATE OF MONTANA                    )  
  SS.  
COUNTY OF YELLOWSTONE         )

On the 1<sup>th</sup> day of October, 1999, personally appeared before me James G. Routson, signer of the above instrument, who duly acknowledged to me that he executed the same as President of Lone Mountain Production Company.

Witness my hand and official seal.

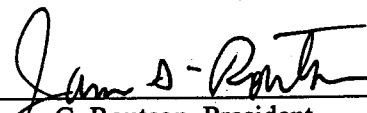
(SEAL)

  
\_\_\_\_\_  
NOTARY PUBLIC  
Residing at Billings, Montana  
My Commission Expires: 10/20/1999

DESIGNATION OF SUCCESSOR OPERATOR  
COMMUNITIZATION AGREEMENT UT060P4988C684  
COUNTY OF GRAND  
STATE OF UTAH  
SELF-CERTIFICATION

Lone Mountain Production Company, as the Designated Successor Operator under Communitization Agreement UT060P4988C684, hereby certifies that the requisite approvals of the current working interest owners in the agreement have been obtained to satisfy the requirements for the selection of a successor operator as set forth under the terms and provisions of the agreement. All operations within the Communitization Agreement will be covered by Lone Mountain's Statewide Oil & Gas Bond No. UT-0719.

LONE MOUNTAIN PRODUCTION COMPANY

By:   
James G. Routson, President



# CREDO PETROLEUM CORPORATION

VIA FAX: (801) 359-3940

December 10, 1999

State of Utah  
Division of Oil, Gas & Mining  
1594 West North Temple, Suite 1210  
Salt Lake City, UT 84114-5801

Attn: Kristen Risback

Re: Resignation of Operator  
Comm Agrmt. UT060P49-88C684  
N½ Section 13: T17S-R24E  
Grand County, Utah

Dear Ms. Risback:

Please be advised CREDO Petroleum Corporation resigns as Operator of the CREDO-Samedan Federal No. 1-13 well under the referenced Communitization Agreement, effective October 1, 1999.

All future correspondence should be directed to Lone Mountain Production Company, P.O. Box 3394, Billings, Montana, 59103.

If you have any questions or need further information, please contact our office at the letterhead address or phone number or Lone Mountain Production Company at (406) 245-5077.

Sincerely,

CREDO PETROLEUM CORPORATION

  
James T. Huffman  
President

JTH/mdh

cc: Lone Mountain Production Company

RECEIVED

DEC 13 1999

C:\WORDPE-2\L20-1999\CPC-UTA1.CPC

DIVISION OF OIL, GAS & MINING



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, UT 84145-0155

IN REPLY REFER TO  
UT-931

October 20, 1999

Lone Mountain Production Company  
P.O. Box 3394  
Billings, Montana 59103-3394

Re: Successor of Operator  
Communitization Agreement (CA)  
UT060P49-88C684  
Grand County, Utah

Gentlemen:

We received an indenture dated October 1, 1999, whereby Credo Petroleum Corporation resigned as Operator and Lone Mountain Production company was designated as Operator for CA UT060P49-88C684, Grand County, Utah.

This indenture was executed by all required parties. The instrument is hereby approved effective October 20, 1999. In approving this designation, the Authorized Officer neither warrants nor certifies that the designated party has obtained all required approval that would entitle it to conduct operations under CA UT060P49-88C684.

Your statewide (Utah) oil and gas bond No. 0719 will be used to cover CA operations.

Please advise all interested parties of the change in operator. Copies of the approved instruments are being distributed to the appropriate federal offices, with one copy returned herewith.

Sincerely,

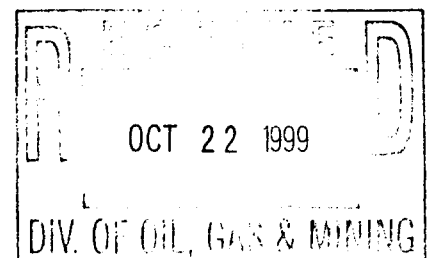
/s/ Robert A. Henricks

Robert A. Henricks  
Chief, Branch of Fluid Minerals

Enclosure

bcc: District Manager - Vernal (w/enclosure)  
~~Division of Oil, Gas, & Mining~~  
File - UT060P49-88C684 (w/enclosure)  
MMS - Data Management Division  
Agr. Sec. Chron  
Fluid Chron

UT931:TATHOMPSON:tt:10/20/99





Page No. 1  
10/20/99

Well Status Report  
Utah State Office  
Bureau of Land Managemen

Lease	Api Number	Well Name	QTR	Section	Township	R
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** Inspection Item: UT060P4988C684						
UTU62253	4301931246	1-13 CREDO-SAMEDAN-F	NWNE	13	T17S	R

**Telephone Number:**

**OPERATOR CHANGE WORKSHEET**

Attach all documentation received by the division regarding this change.

Initial each listed item when completed. Write N/A if item is not applicable.

Routing:	
1-KDR ✓	6-KAS ✓
2-GLH ✓	7-SS ✓
3-JRB ✓	8-FILE
4-CDM ✓	
5-KDR ✓	

☒ Change of Operator (well sold)☐ Designation of Agent☐ Designation of Operator☐ Operator Name Change OnlyThe operator of the well(s) listed below has changed, effective: 10-1-99

**TO:** (new operator) LONE MOUNTAIN PROD. CO.  
 (address) P.O. BOX 3394  
BILLINGS, MT 59103  
CAROLYN GEORGE  
 Phone: (406) 245-5077  
 Account no. N7210

**FROM:** (old operator) CREDO PETROLEUM CORPORATION  
 (address) 1801 BROADWAY STE 900  
DENVER, CO 80202  
 Phone: (303) 297-2200  
 Account no. N3275

WELL(S) attach additional page if needed:

\*CA #UT060P49-88C684

Name: <u>CREDO-SAMEDAN FED 1-13</u>	API: <u>43-019-31246</u>	Entity: <u>10820</u>	S	<u>13</u>	T	<u>17S</u>	R	<u>24E</u>	Lease: <u>U-62253 (PGW)</u>
Name: _____	API: _____	Entity: _____	S	_____	T	_____	R	_____	Lease: _____
Name: _____	API: _____	Entity: _____	S	_____	T	_____	R	_____	Lease: _____
Name: _____	API: _____	Entity: _____	S	_____	T	_____	R	_____	Lease: _____
Name: _____	API: _____	Entity: _____	S	_____	T	_____	R	_____	Lease: _____
Name: _____	API: _____	Entity: _____	S	_____	T	_____	R	_____	Lease: _____
Name: _____	API: _____	Entity: _____	S	_____	T	_____	R	_____	Lease: _____

**OPERATOR CHANGE DOCUMENTATION**

- DP 1. (r649-8-10) Sundry or other legal documentation has been received from the **FORMER** operator (attach to this form). (Rec'd 12.13.99)
- DP 2. (r649-8-10) Sundry or other legal documentation has been received from the **NEW** operator (Attach to this form). (10.6.99)
- N/A 3. The **Department of Commerce** has been contacted if the new operator above is not currently operating any wells in Utah. Is the company **registered with the state?** (yes/no) \_\_\_\_ If yes, show company file number: \_\_\_\_\_
- DP 4. **FOR INDIAN AND FEDERAL WELLS ONLY.** The BLM has been contacted regarding this change. Make note of BLM status in comments section of this form. BLM approval of **Federal** and **Indian** well operator changes should ordinarily take place prior to the division's approval, and before the completion of steps 5 through 9 below. (10.22.99)
- P 5. Changes have been entered in the **Oil and Gas Information System** (3270) for each well listed above. (12.15.99)
- DP 6. **Cardex** file has been updated for each well listed above.
- JHA 7. Well **file labels** have been updated for each well listed above.
- DP 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to Trust Lands, Sovereign Lands, UGS, Tax Commission, etc. (12.15.99)
- DP 9. A folder has been set up for the **Operator Change file**, and a copy of this page has been placed there for reference during routing and processing of the original documents.

## ENTITY REVIEW

- ☒ 1. (r649-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) no If entity assignments were changed, attach copies of Form 6, Entity Action Form.
- ☒ 2. Trust Lands, Sovereign Lands, Tax Commission, etc., have been notified through normal procedures of entity changes.

## BOND VERIFICATION - (FEE WELLS ONLY)

- N/A 1. (r649-3-1) The NEW operator of any fee lease well listed above has furnished a proper bond.
- + 2. A copy of this form has been placed in the new and former operator's bond files.
- + 3. The FORMER operator has requested a release of liability from their bond (yes/no) no, as of today's date 4/13/2000. If yes, division response was made to this request by letter dated 4/13/2000.

## LEASE INTEREST OWNER NOTIFICATION OF RESPONSIBILITY

- N/A 1. Copies of documents have been sent on 4/13/2000 to Trust Lands at Trust Lands for changes involving State leases, in order to remind that agency of their responsibility to review for proper bonding.
- + 2. (r649-2-10) The former operator of any fee lease wells listed above has been contacted and informed by letter dated 4/13/2000 19 2000, of their responsibility to notify all interest owners of this change.

## FILMING

- ✓ 1. All attachments to this form have been microfilmed. Today's date: APR. 13 2000.

## FILING

- + 1. Copies of all attachments to this form have been filed in each well file.
- + 2. The original of this form, and the original attachments are now being filed in the Operator Change file.

## COMMENTS

9/12/00 called Carolyn George w/ Lone Mt. to let her know that the Division needs a Sundry form from Qredo Petroleum Corp.